Welcome Message

Dear Colleagues,

It is my pleasure to welcome you to the ESGE Days 2022 Endoscopy Abstract Supplement.

It is with heartfelt thanks that I acknowledge the researchers who submitted their work to our meeting and it’s our privilege at ESGE Days 2022 to highlight their science. We are again overwhelmed by the interest of endoscopists in being part of ESGE Days. Our fledging congress started in just 2018 and it has been a rocky road over the past two years due to COVID-19. However, there remains a strong sense of positivity that coming together to learn from each other, and share the best and most pioneering science, is crucial to improving patient care in endoscopy and advancing our field.

We feel honoured to have research work submitted from many different parts of the world. 780 abstracts and 173 video abstracts were submitted, coming from 58 different countries. Although we are a European society we welcome the rich international knowledge our colleagues from further afield can provide. Despite the challenging situation that we are faced with because of the pandemic, the abstracts received were of high scientific quality, including some key randomized controlled trials which will help shape future clinical practice.

I am also proud that we are again giving 60 young researchers with top abstracts travel grants to assist them to present their work in person and share in the knowledge exchange on site.

Finally, I would like to say a big thank you to the Scientific Committee for creating an excellent and original program with high quality free paper sessions at its core. It is through the Committee’s hard work, and the dedication of the reviewers who took time to score the abstracts, that we are very pleased to accept 857 abstracts to our congress this year, of which 294 are oral presentations. We are convinced that these abstracts will play an important role in the future development of many different fields of endoscopy!

I hope to see you all in Prague!

Professor Marianna Arvanitakis
Scientific Committee Coordinator

Datum/Venue:
28.–30. April 2022, Prague, Czech Republic

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Helmut Messmann (Germany)
ESGE President and ESGE Days 2022 Scientific Committee Chairman
Abstracts | ESGE Days

**Thursday, 28 April 2022**

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**Thursday, 28 April 2022**

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S8 Old and new ones: finding the appropriate approach to small bowel diseases

S11 Diagnostic and therapeutic EUS in pancreatic disease

S13 Endoscopic treatment for gastric and duodenal tumors

S16 Endoscopic grading and surveillance in IBD

S19 Optimizing bowel preparation and your service’s quality

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S28 Accessing the gallbladder and bile duct

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S33 Efficient diagnostic approaches to the small bowel

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S103 Good, Green, Great endoscopy

S105 Polypectomy including cold snare

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The abstract issue status is as at February 24, 2022.

Abbreviations:

BA: Best abstract

OP: Oral presentation

eP: ePoster
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ESGE Days 2022 Best abstracts

Opening session with best abstracts 08:15–09:15 Thursday, 28 April 2022 Congress Hall

BA001 PLASTIC STENT VS LUMEN APPOSING METAL STENTS IN ENDOSCOPIC ULTRASOUND-GUIDED DRAINAGE OF WALLEDOFF PANCREATIC NECROSIS: A MULTICENTRE RANDOMISED TRIAL (THE PROMETHEUS STUDY)

Authors Velasquez-Rodriguez J.G.1, Bas-Cutrina F.1, Vazquez-Sequeiros E.2, Esteban Lopez-Jamar J.M.3, Teran-Lantaron A.3, Gonzalez-Huix F.3, Perez-Miranda M.6, Guainer-Argente C.7, Vila-Costas J.8, Garcia-Sumalla A.1, Garcia-Garcia De Paredes A.2, Fisac-Vazquez J.1, Moris M.4, Miguel Salas I.3, De La Serna Higuera C.4, Murzi M.4, Salord S.1, Foruny J.R.2, Ruiz-Osuna S.1, Pelaez-Serrano N.1, Sanllorente M.1, Tebe Cordonio C.1, Hereu P.1, Gornals J.B1

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Aims Till date, there is not enough quality of evidence to recommend exclusively the use of LAMS. The main objective is to assess whether the theoretical benefit of LAMS is superior to DPS in the management of Walled-off necrosis (WON).

Methods This is a multicentre randomized controlled, prospective clinical trial with two parallel group. Primary endpoint is the short-term (4-weeks) clinical success determined by the reduction of the pancreatic collection (<50% or <5cm). Secondary endpoints: long-term clinical success (4-months); number of procedures; hospital stay, procedure duration, recurrence, safety and costs. A cross-over rescue is considered when initial protocol treatment fails.

Results Between June-2017 and October-2020, 99 patients were screened and 61 patients with WON were randomized and included for protocol analysis: 30 patients in LAMS group and 31 in DPS group. All included patients were followed up for a minimum of 12-month. Short-term clinical success was superior in LAMS-cohort, without significant difference (63%LAMS vs 45%DPS, p = 0.154). Procedure duration (38 vs 53 min, p < 0.005) was significantly shorter in LAMS-cohort. Although, more additional and rescue procedures were needed in DPS cohort, it was non-significant. Length of hospital stay and stent-related adverse events (39%LAMS vs 45%DPS, p < 0.641) were similar between cohorts Global success treatment (96-100%) was equal at the end of follow-up. ClinicalTrials.gov: NCT03100578

Conclusions Although the only significant difference between LAMS and DPS was the procedure duration, a greater number of additional and rescue procedures were required in the DPS-cohort; and short-term clinical success was higher in LAMS-group. The adverse event rate was considerable in both groups.

BA002 ARTIFICIAL INTELLIGENCE FOR REAL-TIME OPTICAL DIAGNOSIS OF NEOPLASTIC POLYPS DURING COLONOSCOPY

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Aims Artificial intelligence using computer-aided diagnosis (CADx) may enable colonoscopists to distinguish between neoplastic polyps requiring removal and non-neoplastic polyps without requiring removal during colonoscopy. This may reduce costs and resources and prevent polyp overtreatment in colorectal cancer screening.

Methods We performed a multicenter clinical trial comparing a novel CADx system using real-time ultra-magnifying polyp visualization during colonoscopy with standard visual inspection of small (≤5mm in diameter) polyps in the sigmoid colon and the rectum for optical diagnosis of neoplastic histology. All polyps were subsequently removed. The primary endpoint was sensitivity for
neoplastic polyps compared to histopathology. Secondary endpoints were specificity and colonoscopy confidence level of optical diagnosis.

**Results** We assessed 1,289 individuals for eligibility at colonoscopy centers in Norway, the United Kingdom and Japan. We detected 892 eligible polyps in 518 patients and included them in analyses; 359 neoplastic and 533 non-neoplastic. Sensitivity for diagnosis of neoplastic polyps with standard visual inspection was 88.4 % (95 % confidence interval (CI) 84.3-91.5) compared to 90.4 % (95 % CI 86.8-93.1) with CADx (p = 0.33). Specificity was 83.1 % (95 % CI 79.2-86.4) with standard visual inspection and 85.9 % (95 % CI 82.3-88.8) with CADx (p = 0.04). The proportion of polyp assessment with high confidence was 74.2 % (95 % CI 70.9-77.3) with standard visual inspection versus 92.6 % (95 % CI 90.6-94.3) with CADx (p < 0.001).

### Table 1

<table>
<thead>
<tr>
<th></th>
<th>Standard diagnosis</th>
<th>CADx diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity - % (95 % CI)</td>
<td>88.4 (84.3-91.5)</td>
<td>90.4 (86.8-93.1)</td>
</tr>
<tr>
<td>Specificity - % (95 % CI)</td>
<td>83.1 (79.2-86.4)</td>
<td>85.9 (82.3-88.8)</td>
</tr>
<tr>
<td>High confidence of optical diagnosis - % (95 % CI)</td>
<td>74.2 % (70.9-77.3)</td>
<td>92.6 % (90.6-94.3)</td>
</tr>
</tbody>
</table>

**Conclusions** Real-time polyp assessment with CADx did not significantly increase sensitivity for neoplastic polyps, but increased specificity and improved confidence of optical diagnosis.

(UMIN no. 000035213; funding Norwegian Research Council, Norwegian Cancer Society, Japan Society for the Promotion of Science)

**BA003** EUS-GUIDED RENDEZVOUS TECHNIQUE VERSUS PRECUT PAPILLOTOMY AS SALVAGE TECHNIQUE IN PATIENTS OF BENIGN BILIARY DISEASE WITH DIFFICULT BILIARY CANNULATION: A RANDOMIZED CONTROLLED TRIAL

**Authors** Choudhury A.1, Samanta J.1, Muktesh G.1, Dhar J.1, Kumar A.1, Shah J.1, Gupta P.2, Gupta V.3, Yadav T.D.3, Kochhar R.1

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**DOI** 10.1055/s-0042-1744562

**Aims** Standard salvage technique used for difficult bile duct cannulation (DBDC) is pre-cut papillotomy (PCP), while endoscopic ultrasound-guided rendezvous technique (EUS-RV) is a relatively newer modality. Prospective comparative data between these two techniques as salvage for biliary access in patients of benign biliary disease with DBDC is lacking and hence, this study was planned.

**Methods** All patients of benign biliary disease with DBDC between July 2020-May 2021 were randomized to salvage technique by EUS-RV or PCP. DBDC was defined as per ESGE guidelines. Patients with failure in EUS-RV were crossed over to PCP and vice-versa. All patients received standard post-ERCP pancreatitis (PEP) prophylaxis. Outcome measures such as technical success, time required for the procedure, complication rates were documented.

**Results** A total of 100 patients (male 28 %) with DBDC were included in the study. The technical success rate (92 % vs.90%; p = 1.00), median procedure time (10.1 minutes vs. 9.75 minutes;p = 0.315) and overall complications rates (12 % vs 10.3;p = 0.749) were similar between the two arms. 5 patients (10 %) in EUS-RV and 5 patients (10 %) in PCP group had developed PEP. Inadvertent PD cannulation was a significant the risk factor for PEP (p < 0.001). In the subgroup of patients without prior inadvertent PD cannulation, EUS-RV had trend towards lower risk of PEP than PCP (0 % vs 5.6 %; p = 0.49).

**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>EUS-RV (n = 50)</th>
<th>Precut Papillotomy (n = 50)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Success</td>
<td>46 (92 %)</td>
<td>45 (90 %)</td>
<td>1.00</td>
</tr>
<tr>
<td>Overall time (total time of the procedure (min.))</td>
<td>10.1;16.8;1.5-45.25</td>
<td>9.75; 7;7;1.75-34</td>
<td>0.32</td>
</tr>
<tr>
<td>Post-ERCP pancreatitis</td>
<td>5 (10 %)</td>
<td>5 (10 %)</td>
<td>0.10</td>
</tr>
</tbody>
</table>

**Conclusions** EUS-RV and PCP have comparable success rates as salvage techniques in the technically challenging cohort of DBDC, with acceptable complications rates. EUS-RV nullifies the risk of PEP in the absence of prior inadvertent PD cannulation. (Trial no.: CTRI/2020/07/026613).

**BA004** GASTRIC PERORAL ENDOSCOPIC MYOTOMY (GPOEM) VERSUS BOTULINIUM TOXIN INJECTION (BTI) FOR THE TREATMENT OF REFRACTORY GASTROPARESIS: FIRST DOUBLE-BLIND RANDOMIZED CONTROLLED STUDY

**Authors** Gonzalez J.-M.1, Picohe M.2, Garbay V.1, Mion F.2, Barthet M.1, Vitton V.1

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**DOI** 10.1055/s-0042-1744563

**Aims** This is the first randomized study comparing the clinical efficacy of GPOEM with pyloric BTI in refractory gastroparesis. The aims were to compare the 3-month and 1 year efficacy (GCΣI score), GES improvement, adverse events, quality of life (GIQLI and SF-12). Predictive factors were analyzed.

**Methods** This was a prospective, randomized, double-blind study conducted in two French expert centers. Patients had severe, refractory gastroparesis, evolving for >6 months and confirmed by gastric emptying scintigraphy (GES), and were randomized into two groups: GPOEM and BTI. Follow-up was 1 year.

**Results** 40 patients were included, 22 women and 18 men, mean age 48.1 ± 17.4 years. Etiologies were diabetic (n = 11), idiopathic (n = 18), postoperative (n = 6), or mixed (n = 4). Both groups were comparable at baseline. Clinical success at 3 months and 1 year were 73.3 % and 67 % in the GPOEM group vs. 53.3 % and 57 % in the Botox group (p = 0.26; p = 0.58), respectively. The GCΣI deltas were was 1.48 ± 1.17 versus 1.15 ± 0.57 (NS) at 3 months and 1.2 ± 1 versus 0.9 ± 1.2 (NS) at 1 year, respectively. There was no difference in quality of life. Only one minor AE occurred in the GPOEM group. GES improvement rate was 72 % after GPOEM against 50 % after BTI (NS).

**Conclusions** This study confirms the results of open studies, showing clinical success of 65 % at 1 year for GPOEM. Despite a trend in its favor of GPOEM, no significant difference was demonstrated with BTI. These results should be completed in larger study with greater power.
ESGE Days 2022 Oral presentations

Cutting the (muscular) edge: peroral endoscopic myotomy

Thursday, 28 April 2022

09:30–10:30

Club A

OP001  **LONG-TERM EFFICACY AND GASTROESOPHAGEAL REFLUX DISEASE AFTER PER ORAL ENDOSCOPIC MYOTOMY (POEM): A PROSPECTIVE STUDY WITH 5-YEARS OBJECTIVE FOLLOW-UP**

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*DOI*
10.1055/s-0042-1744564

**Aims**
Peroral endoscopic myotomy (POEM) has shown excellent short-term safety and efficacy; long-term data are limited. Aim of the study was to assess durability of POEM efficacy and long-term GERD evolution.

**Methods**
We prospectively included all patients who underwent POEM between June 2012 and August 2016 at our center. At 3, 12, 36 and 60 months after POEM, patients underwent clinical assessment and objective follow-up with high-resolution manometry, upper endoscopy and pH-impedance study.

**Results**
Out of 414 consecutive patients treated (2012-2021), 94 had long-term follow-up and were included. Median age was 57 years (range 17-90); 65.9% were males; 68.1% had achalasia type II. Adverse events occurred in 38.6% vs 20.9% (p = 0.02).

Clinical success after POEM persisted in 95.7%, 93.3%, 86.49% and 84.51% of patients at 3, 12, 36 and 60 months; respective clinical reflux rates were 28.7%, 38.6%, 35.7% and 20.9%; a significant decrease was observed between 12 and 60 months (38.6% vs 20.9%, p = 0.02).

As regards objective GERD monitoring, low grade erosive esophagitis (Los Angeles A-B) was observed in 29.5%, 22.7%, 40% and 31.7%, grade C-D in 1.1%, 2.5%, 3.6% and 2.4% at 3, 12, 36 and 60 months; respective abnormal pH-impedance study rates were 31.5%, 28.3%, 30.4% and 26.4%.

**Conclusions**
POEM shows reassuring long-term efficacy and safety, with clinical success persisting in more than 80% of patients after 5 years. Clinical post-POEM reflux affects nearly 1 out of 4 patients and seems to decrease over time.

OP002V  **POEM, SEPTOTOMY AND RESTORATION OF ESOPHAGEAL LUMEN WITH OTSC. CLOSING THE CIRCLE OF ESOPHAGEAL DIVERTICULA MANAGEMENT**

*Authors*
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*DOI*
10.1055/s-0042-1744565

A patient with type III achalasia with three diverticula was treated by POEM. An uninterrupted posterior myotomy was performed to ensure complete dissection of the spastic segment. The myotomy was also driven to dissect the diverticula septum. The two bigger diverticula pouches were everted over scope clips (OTSC). Early barium swallow demonstrated restored esophageal anatomy with normal contrast flow. The patient remains asymptomatic on a full texture diet. A multimodal one-session endoscopic procedure treating both the underlying motility disorder and the diverticula, with restoration of the lumen mechanically (OTSC), will lead to better rates of therapeutic success.

OP003  **CONCOMITANT ENDOSCOPIC FUNDOPLICATION AFTER PER ORAL ENDOSCOPIC MYOTOMY (POEM + F) FOR PREVENTION OF POST-POEM GASTRO-ESOPHAGEAL REFLUX – SHORT, MEDIUM AND LONG-TERM OUTCOMES**

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*DOI*
10.1055/s-0042-1744566

**Aims**
Post-peroral endoscopic myotomy(POEM) gastro-oesophageal reflux (GER) frequently reported. Concomitant fundoplication(POEM + F)-promising short-term results in preventing GER. This single centre study reports incidence of post-POEM GER–short-, medium- and long-term follow up(f/u) following POEM + F.

**Methods**

**Results**
Study duration–March 2019 to October 2021; N = 39; M:F = 20:19; mean age–42.7y (SD13.66); Dysphagia improvement in all(mean[SD]pre- and post-POEM ES–8.51[1.08] and 0.89[0.3] respectively, p < 0.05). Mean POEM time(SD)–60.51(16.3) minutes; concomitant fundoplication time–41.7(10.4) minutes. Median duration of short-, medium- and long-term f/u–6(IQR 5–6), 12(IQR 10.5–12), 26(IQR 22–29) months respectively.

**Short term**
Medium term—N = 37; GerDQ > 8 – 2/37(5.4 %); continued from short-term, both—Gr.B esophagitis (no regular PPI). 1—improved after anti-H. Pylori therapy; 1—recurrent achalasia. No new refluxers. On demand PPI—additional 3 patients.

Long term—N = 29; GerDQ > 8 – 3/29(10.3 %); one persistent—1/29(3.4 %); two new/2(6.9 %); previously—no symptoms; no esophagitis & adequate wrap.

All 3—regular PPI. 1—resolved refluxer (no esophagitis; normal EAET) using on demand PPI.

Conclusions Concomitant fundoplication (POEM + F) is effective and durable to prevent post POEM GER. Outcomes—sustained at median two-year f/u. Delayed GER at medium- and long-term is infrequent. Most patients can discontinue PPI. Study limitations—lack of objective assessment at long-term f/u.

OP004 RISK FACTORS FOR EARLY FAILURE OF PERORAL ENDOSCOPIC MYOTOMY (POEM) IN ACHALASIA: A RETROSPECTIVE MULTICENTER STUDY

Authors Vauquelin B.1, Berger A.2, Poche M.3, Barret M.4, Wallenhorst T.5, Coron E.6, Roman S.6, Chaussade S.7, Queenneherve L.8, Ponchon T.3, Olivier R.9, Zerbib F.2

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Aims The aims of our study were to determine the early failure rate of POEM and to identify predictive risk factors.

Methods It was a multicenter retrospective study in 5 tertiary centers. We included all consecutive adult patients who had undergone a first POEM for primary achalasia until April 2021. The primary endpoint was rate of early failure defined by an ES > 3 at 3 months after POEM. The secondary endpoint was the evaluation of predictive risk factors of early failure. Two cohorts were considered: one consisted in the total population in which only basic variables were collected; in the other cohort, a case-control study was performed, in which we included early failure patients (n = 69), matched (1:2) with early success indicators for treatment response.

Results A total of 1043 patients were treated by POEM; 310 were excluded (including 82 patients lost to follow-up). Among the 733 remaining patients, the early failure rate was 9.4 %. Early failure predictive factors in the total population were age ≤ 45 years (OR = 1.93; p = 0.013), achalasia type I or III (OR = 2.51; p = 0.001), occurrence of a severe complication during the procedure (OR = 3.00; p = 0.019). In the case-control study, the only independent risk factor for early failure was the pre-POEM ES (p < 0.001) (a higher ES was associated with a higher risk), mainly in its retrosternal pain component.

Conclusions In this large retrospective cohort, the early failure rate of POEM in primary achalasia is 9.4 %. Age ≤ 45 years, achalasia type I/III, high pre-POEM Eckardt score, and pre-POEM retrosternal pain are significant failure risk factors.

OP005 HIGH-RESOLUTION IMPEDANCE MANOMETRY METRICS OF THE EG-JUNCTION FOR PREDICTING CLINICAL RESPONSE FOLLOWING PERORAL ENDOSCOPIC MYOTOMY IN ACHALASIA

Authors Grön K.1, Elbigo A.2, Schnoy E.3, Messmann H.1, Nagl S.1

Institute 1 University Hospital Augsburg, Gastroenterology, Augsburg, Germany


Aims Peroral endoscopic myotomy (POEM) is an effective treatment for achalasia. There is still controversy, which method is the best to predict clinical response following POEM. We aimed to evaluate changes at esophagogastric junction pressure (EGP) and integrated relaxation pressure (IRP4) in high-resolution manometry (HRM) in patients with achalasia before and after POEM as indicators for treatment response.

Methods We retrospectively evaluated 135 patients (mean age: 54.3 (± 18.2) years) with achalasia during 3-months follow up after POEM with Eckardt score (ES) and HRM. Clinical response was defined as ES ≤ 3. Receiver-operating characteristic (ROC) curves for good symptomatic outcome (ES ≤ 3) were generated for each potential predictor of treatment response (ΔEGP, ΔIRP4, %ΔEGP, %ΔIRP4).

Results 87 % of patients showed a good symptomatic outcome after POEM. Mean EGP and IRP4 values reduced significantly after POEM (33.2 (+ 16.2) mmHg vs. 15.3 (+ 10.9) mmHg, P < 0.001 and 20.3 (+ 10.5) mmHg vs. 8.4 (+ 8.2) mmHg, P < 0.001, respectively). The area-under-the-curves (AUCs) on the ROC curve for symptomatic outcome were 0.54 (ΔEGP), 0.54 (ΔIRP4), 0.72 (%ΔEGP) and 0.52 (%ΔIRP4). Optimal cut-points were determined as -2.5 mmHg (ΔEGP), -15.1 mmHg (ΔIRP4), 0.47 mmHg (%ΔEGP) and 0.19 mmHg (%ΔIRP4) that provided sensitivities/specificities of 43 %/7 % (ΔEGP), 71 %/50 % (ΔIRP4), 71 %/26 % (%ΔEGP) and 86 %/67 % (%ΔIRP4) to predict symptomatic outcome. The most predictive HRM measurement for clinical response after POEM is %ΔIRP4.

Conclusions HRM measurements can predict clinical response after POEM with a moderate predictive ability. %ΔIRP4 is the most predictive clinical measure in HRM.

OP006V ENDOSCOPIC TREATMENT METHOD FOR SYMPTOMATIC THORACIC ESOPHAGEAL DIVERTICULUM

Authors Aslan F.1, Ak A.B.1, Darcin K.2

Institutes 1 Koc University Hospital, Gastroenterology, Istanbul, Turkey; 2 Koc University Hospital, Anesthesiology and Reanimation, Istanbul, Turkey


A 71-year-old male patient presented to clinic with dysphagia and persistent cough. On his past medical history there were congestive heart failure (EF 29 %) and the pacemaker placement which required him to take antiaggregant-treatment. On esophagography imaging, a 6 cm in diameter diverticulum in thoracic esophagus was detected. On CT imaging, there was no pathology other than esophageal diverticulum was observed. Under general anesthesia, the patient was treated with endoscopic septomytomy and POEM at distal to the diverticulum until the distal end of the gastroesophageal junction using the tunnel technique. Afterwards, the tunnel entrance was closed with clips. Patient was discharged on postoperative day 2.

Old and new ones: finding the appropriate approach to small bowel diseases 09:30–10:30

Thursday, 28 April 2022

Club E

OP007V MID GUT EXPLORATION: CAN CAPSULE ENDOSCOPY ALWAYS DETERMINE THE INSERTION ROUTE OF DEVICE-ASSISTED ENTEROSCOPY?

Authors Fernandez M., Viaña Y.1, Verset L.2, Rocq L.2, Demetter P.2, Arvanitakis M.3

Institutes 1 ULB/Hôpital Erasme, Gastroenterology, Brussels, Belgium; 2 ULB/Institut Jules Bordet, Pathology, Brussels, Belgium; 3 ULB/Hôpital Erasme, Pathology, Brussels, Belgium


Small bowel capsule endoscopy (SBCE) is a well-known non-invasive technique that has revolutionized the exploration of the midgut as device-assisted enteroscopy (DAE) development. Both procedures are complementary and SBCE can be considered a previous guide before a deep enteroscopy procedure that...
OP008 BALLOON-ASSISTED ENTEROSCOPY AND MOTORIZED SPIRAL ENTEROSCOPY: COMPETITIVE OR COMPLEMENTARY TECHNIQUES?

Authors: Moreels T.1, Monino L.1, Deprez P.1, Piessieux H.1
Institute: 1 Cliniques universitaires Saint-Luc, Gastroenterology & Hepatology, Brussels, Belgium
DOI: 10.1055/s-0042-1744571

Aims: To compare technical efficacy (insertion depth), of motorized spiral enteroscopy (MSE) and single-balloon enteroscopy (SBE) consecutively performed in the same patients cohort.

Methods: Patients who underwent enteroscopy using both SBE and MSE were analysed for insertion depth, as identified by fluoroscopy. MSE was performed with PSF-1, SBE with SIF-Q180 or XSIF-180JY.

Results: In 2020-2021, 29 patients underwent both SBE and MSE. Male/female ratio was 12/17 with mean age 61 ± 3 years (range 18-89). Antegrade enteroscopy was performed in 69%, retrograde enteroscopy in 10%, and endoscopy of the excluded stomach after Roux-en-Y gastric bypass in 10% and ERCP after Roux-en-Y liver transplantation in 10%. Based on insertion depth, MSE was more efficient in 12/29 patients (41%), SBE in 31% and in 8 patients (28%) they were equally effective (p = 0.35, Chi-square). Enteroscopy route and surgical reconstruction were not correlated with technical success of either enteroscope. However, MSE tended to fail in patients with angulated intestinal limbs, irrespective of abdominal surgery.

Conclusions: Comparison of insertion depth revealed that MSE was superior to SBE in 41%, equal to SBE in 28% and inferior to SBE in 31% in patients who underwent repeat enteroscopy using both techniques. MSE allowed deeper and complete enteroscopy, also in surgically altered anatomy, but failed in case of angulated intestinal limbs. This can be explained by difference in endoscope design, as the MSE tip is similar to a colonoscope (diameter and angulation) whereas the SBE tip is similar to a gastroscope. MSE and SBE are complementary rather than competitive enteroscopy techniques.

OP009 AUTOMATIC DETECTION AND CLASSIFICATION OF PLEOMORPHIC SMALL BOWEL LESIONS WITH DIFFERENT BLEEDING POTENTIAL USING A CONVOLUTIONAL NEURAL NETWORK: A MULTICENTRIC STUDY

Authors: Mascarenhas M.1, Afonso J.1, Ribeiro T.1, Ferreira J.2, Andrade P.1, Mascarenhas Saraiva M.2, Cardoso H.1, Macedo G.1
Institutes: 1 Centro Hospitalar São João, Porto, Portugal; 2 Faculty of Engineering of the University of Porto, Porto, Portugal; 3 Manoph Gastroenterology Clinic, Porto, Portugal
DOI: 10.1055/s-0042-1744572

Aims: Capsule endoscopy enables the detection of enteric pleomorphic lesions with different bleeding potentials. However, reading CE exams is a time-consuming and monotonous task prone to errors. Convolutional neural networks (CNNs) are highly efficient artificial intelligence tools for image analysis. Our group developed a CNN-based model for detecting and differentiating pleomorphic small bowel lesions with distinct hemorrhagic potential using CE images.

Methods: Our group developed, trained, and validated a denary CNN based on CE images. Each frame was labeled according to the type of lesion (lymphangiectasia, xanthomas, ulcers, erosions, vascular lesions, protruding lesions, and blood) by three experts in CE. Saurin’s classification assessed the hemorrhagic potential: P0 – lesions without bleeding potential; P1 – lesions with uncertain bleeding potential; P2 – lesions with high bleeding potential; P3 – luminal blood. 55380 frames of the enteric mucosa were obtained from 2565 CE exams from two different centers (1483 from São João University Hospital and 1082 from Manoph Gastroenterology Clinic). 90% of the frames were used to create the training dataset, and 10% used to test the network. The patients included in the training dataset were excluded from the testing dataset.

Results: The model had an overall accuracy of 98.3%, a sensitivity of 89.6%, and a specificity of 98.9%.
**OP010** THE OTHER SIDE OF THE MOON: ROLE OF CAPSULE AND DOUBLE BALLOON ENTEROSCOPY IN PATIENTS WITH INDICATION OTHER THAN SUSPECTED SMALL BOWEL BLEEDING

**Authors** Scaramella L.1, Topa M.1,2, Penaghi R.1,2, Vecchi M.1,2, Tontini G.E.1,2, Pennazio M.1,3, Siddhu R.4, Sanders D.S.4, Elli L.1,2

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**DOI** 10.1055/s-0042-1744573

**Aims** The use of videocapsule and double balloon enteroscopy (VCE, DBE), in patients with indications other than suspected small bowel bleeding (nSSBB) is largely unknown. Our aim was to assess their role in patients with nSSBB.

**Methods** We retrospectively evaluated consecutive patients who underwent VCE and/or DBE from March 2001 to January 2019, considering the ones with nSSBB as indication. Demographic and clinical parameters, technical characteristics of the procedures and adverse events were collected. Effectiveness in terms of diagnostic yield (DY), concordance between the two investigations and safety of the procedures were evaluated.

**Results** 1168 VCEs and 607 DBEs were collected (1366 subjects), 45 % VCE and 47 % DBE were performed for nSSBB (615 patients). Main indications were suspected known Crohn’s disease, complicated celiac disease, persistent enteric symptoms, and suspected neoplasms. There were no technical differences between VCE and DBE performed for nSSBB vs SSBB. DYs were 64 % vs 58 % (p < .05) and 52 % vs 69 % (p < .05) for VCE and DBE, nSSBB vs SSBB. The lowest DY (35 %) was in DBE performed for suspected neoplasms. The rate of adverse events was 0 % in VCE and 0.7 % in DBE without differences between indication. Agreement was generally sub-optimal (k = 0.13), being higher in celiac and Crohn’s diseases (k = 0.7 and 0.6), and lower in suspected neoplasms and in persistent enteric symptoms (k = 0.07 and 0.25).

**Conclusions** This study describes the largest series of patients undergoing enteroscopy for indications other than bleeding, demonstrating its efficacy also in case of “atypical” indications with a high safety profile.

**OP011** IS CAPSULE ENDOSCOPE SMALL BOWEL ANGIODYSPLASIA ACTIVITY INDEX (CESBAI) CAPABLE OF PREDICTING REBLEEDING AND NEED FOR ENDOSCOPIC TREATMENT IN PATIENTS WITH SUSPECTED SMALL BOWEL BLEEDING?

**Authors** Lima Capela T.1,2, Macedo Silva V.1,2, Freitas M.1,2, Arieira C.1,2, Xavier S.1,2, Cândido Gonçalves T.1,2, Boal Carvalho P.1,2, Rosa B.1,2, João Moreira M.1,2, Cotter J.1,2

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**DOI** 10.1055/s-0042-1744574

**Aims** The Capsule Endoscopy Small Bowel Angiodysplasia Activity Index (CESBAI) is a recently created score for small bowel angiodysplasias (SBAD) evaluation in patients with suspected small bowel bleeding (SBB), including 3 variables: extension, number and bleeding probability of SBAD. Although having a low interobserver variability, it is still unknown if it could be used in the prediction of rebleeding and need for endoscopic treatment after initial capsule endoscopy (CE). We aimed to evaluate the performance of CESBAI for these outcomes.

**Methods** Retrospective cohort-study including complete CE for SSB with a SBAD diagnosis, from May2008-October2020. The minimum follow-up was 12 months. CE with any other vascular and nonvascular lesions that could be a source of bleeding were excluded. Rebleeding was defined as an overt bleeding event (melena or hematochezia) or a decrease of ≥ 2 g/dL in hemoglobin level. The score was calculated and its accuracy for the prediction of rebleeding and need for endoscopic treatment was assessed through a receiver operating characteristic curve.

**Results** Data from 125 patients was included. Rebleeding occurred in 48 (38.4%) patients and 35 (28.0%) patients were submitted to endoscopic treatment during a mean follow-up of 55 ± 36 months. Most frequent CESBAI score was 6 (40.2 %) and 9 (31.1 %). The score showed a fair and acceptable accuracy predicting rebleeding (C-statistic 0.650; 95 %CI [0.550-0.750]; p < 0.05) and endoscopic treatment (C-statistic 0.720; 95 %CI [0.619-0.820]; p < 0.001), respectively.

**Conclusions** Even though its performance was not outstanding, application of the CESBAI in patients with SSB from SBAD can be considered in order to predict rebleeding risk and endoscopic treatment.

**OP012** ARTIFICIAL INTELLIGENCE TO QUANTIFY VILLOUS ATROPHY DURING CAPSULE ENTEROSCOPY

**Authors** Ellı L.1, Ciulla M.M.2, Scaramella L.1, Nandi N.1, Rimondi A.1, Maregatti M.1, Tontini G.E.1, Cavallaro F.1, Penaginì R.1, Vecchi M.1

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**DOI** 10.1055/s-0042-1744575

**Aims** To develop an image processing algorithm based on capsule endoscopy (CE) CapsoCam (CapsoVision, Cupertino, CA, USA) lateral panoramic view to quantify villous atrophy.

**Methods** Frames from CapsoCam CES were retrospectively obtained from celiac disease (CeD) patients and Controls (Co) referring to our Gastroenterology department from 2018 to 2020. Histology was assumed as reference standard in case of atrophy or not. Three 1 mm regions of interest (ROI) per frame were selected blindly by an expert gastroenterologist (LE) and then analysed for morphometric analysis using NIH Image J image-processing software and transformed in a numerical scale. Each ROI was then studied by using 3D a surface plot macro and isolines plots were obtained to identify the density of intestinal villi. All readers were blind to the histologic results.

**Results** A total of 306 ROI were acquired from 57 CE from CeD patients and 45 from Co. On a numerical scale, atrophic vs non-atrophic mucosa were represented by 7.03 ± 1.54 vs 15.99 ± 1.42. A sensitivity of 77 % and a specificity of 79 % in discriminating between atrophic (Marsh-Oberhuber > 3a) or non-atrophic (Marsh- Oberhuber < 2) mucosa were cut-off of 14.10 (Youden Index) and an overall AUC of 0.805 (CI 95 % 0.712-0.897) were obtained (Fig. 1).
Conclusions Our process is able to discriminate the presence of villous atrophy in a definite set of patients. Further studies are needed to establish its validity in an external cohort.

Diagnostic and therapeutic EUS in pancreatic disease
Thursday, 28 April 2022
09:30–10:30
Club H

OP013 ENDOSCOPIC ULTRASOUND-GUIDED DRAINAGE USING LAMS OF MALIGANT AFFERENT LIMB SYNDROME IN PATIENTS WITH PREVIOUS WHILPE SURGERY: A MULTICENTER STUDY


In an external cohort.

SURGERY: A MULTICENTER STUDY

pancreatic disease 09:30–10:30

Conclusions This is an observational multicenter study with 20 participating centers. All patients undergoing rEUS-FNB for pancreatic masses at 26 Italian hospitals from July 2017 to July 2021 was conducted. Results are expressed in terms of odd ratio and 95 % confidence intervals.

OP014 REPEATED EUS-GUIDED FINE NEEDLE BIOPSY AFTER NON-DIAGNOSTIC OR INCONCLUSIVE RESULTS OF SOLID PANCREATIC MASSES – THE REUBIO STUDY


Institutes 1 University of Bologna, Gastroenterology Unit, Hospital of Imola, Imola, Italy; 2 University of Verona, Verona, Italy; 3 Fondazione Policlinico Universitario A. Gemelli, IRCCS, Roma, Italy; 4 University of Foggia, Foggia, Italy; 5 Forlì-Cesena Hospitals, AUSL Romagna, Forlì, Italy; 6 University of Modena, Modena, Italy; 7 Città della Salute e della Scienza di Torino, Torino, Italy; 8 Campus Biomedico, Roma, Italy; 9 National Institute of Research “Saverio de Bellis”, Castellana Grotte, Italy; 10 Ravenna Hospital, AUSL Romagna, Ravenna, Italy; 11 Maggiore Hospital of Bologna, Bologna, Italy; 12 Hospital of Rimini, AUSL Romagna, Rimini, Italy; 13 Veneto Institute of Oncology IOV-IRCCS, Padova, Italy; 14 Hospital of Ferrara, Ferrara, Italy; 15 Miulli Hospital, Acquaviva delle Fonti, Italy; 16 Valduce Hospital, Como, Italy; 17 Hospital of Mantova, Mantova, Italy; 18 Hospital of Fermo, Fermo, Italy; 19 Galliera Hospital of Genova, Genova, Italy; 20 Niguarda Hospital, Milano, Italy; 21 Hospital of Carpi, AUSL Modena, Carpi, Italy; 22 Humanitas Research Hospital, Milano, Italy; 23 San Raffaele Hospital, Milano, Italy; 24 Humanital Mater Domini, Castellanza, Italy; 25 Hospital of Piacenza, Piacenza, Italy; 26 University of Bologna, Bologna, Italy


Aims To evaluate the diagnostic yield of repeated EUS-FNB(EUS-FNB) of pancreatic masses after previous non-diagnostic or inconclusive EUS-tissue acquisition(EUS-TA).

Methods A retrospective study retrieving consecutive patients who underwent rEUS-FNB for pancreatic masses at 26 Italian hospitals from July 2017 to July 2021 was conducted. Results are expressed in terms of odd ratio and 95 % confidence intervals.
Results Three-hundred-42 patients were included (55.6 % male, median age 69.5 (60-76)); in 27 (81.5 %) cases a 2nd-generation EUS-FNB needle (fork-tip, franseen-type or forward-bevel) was used, median 3 (2-3) passes. ROSE was available in 63 (18.4 %) cases. Final diagnosis revealed malignancy in 255 (74.6 %). On univariate analysis, previous EUS-FNB was inversely related to accuracy (OR 3.8 [0.15-0.91]), while use of 2nd-generation EUS-FNB needles (OR 2.54 [1.25-5.18]) was directly correlated; on multivariate analysis, the use of fork-tip needle (OR 11.57 [1.54-87.10]) and number of needle passes <3 (OR 0.50 [0.25-0.99]) were independently related to rEUS-FNB accuracy.

Conclusions Repeated-EUS-FNB showed optimal adequacy and accuracy after previous non-diagnostic or inconclusive EUS-TA of pancreatic masses. Repeated-EUS-FNB adequacy, sensitivity, specificity and accuracy were 91.1 %, 91.2 %, 91.1 % and 90.5 %, respectively. Positive and negative predictive values were 97.5 % and 72.9 %.

On univariate analysis, rEUS-FNB performed in high-volume centers (OR 2.79 [1.10-7.10]) was related to sample adequacy while ROSE was not. On multivariate analysis, the use of 2nd-generation EUS-FNB needles was the only variable independently related to sample adequacy (OR 4.40, 95 % CI 0.10-1.40). Repeated-EUS-FNB adequacy and diagnostic accuracy. Previous EUS-FNB was inversely related to accuracy (OR 4.40, 95 % CI 0.10-1.40).

On univariate analysis, previous EUS-FNB was inversely related to accuracy (OR 3.8 [0.15-0.91]), while use of 2nd-generation EUS-FNB needles (OR 2.54 [1.25-5.18]) was directly correlated; on multivariate analysis, the use of fork-tip needle (OR 11.57 [1.54-87.10]) and number of needle passes <3 (OR 0.50 [0.25-0.99]) were independently related to rEUS-FNB accuracy.

Conclusions Repeated-EUS-FNB showed optimal adequacy and accuracy after previous non-diagnostic or inconclusive EUS-TA of pancreatic masses. Repeated-EUS-FNB adequacy, sensitivity, specificity and accuracy were 91.1 %, 91.2 %, 91.1 % and 90.5 %, respectively. Positive and negative predictive values were 97.5 % and 72.9 %.

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Conclusions Repeated-EUS-FNB showed optimal adequacy and accuracy after previous non-diagnostic or inconclusive EUS-TA of pancreatic masses. Repeated-EUS-FNB adequacy, sensitivity, specificity and accuracy were 91.1 %, 91.2 %, 91.1 % and 90.5 %, respectively. Positive and negative predictive values were 97.5 % and 72.9 %.
OP018 PREDICTION OF MALIGNANCY WITH RGB PROFILING OF PANCREATIC MASS-ELASTOGRAPHIES AND CONTRAST-ENHANCED IMAGES BY ENDOSCOPIC ULTRASOUND

Authors Razpotnik M.1, Bota S.1, Utrak C.1, Essler G.1, Weber-Ebel J.1, Peck-Radosavljevic M.1

Institute 1 Department of Internal Medicine and Gastroenterology (IMuG), Hepatology, Endocrinology, Rheumatology and Nephrology and Emergency Medicine (ZAE) with Centralized Endoscopy Service, Klinikum Klagenfurt am Wörthersee, Klagenfurt am Wörthersee, Austria


Aims Combining elastography and contrast-enhanced endoscopic ultrasound (CE-EUS) is useful in the semi-quantitative evaluation of pancreatic tumors. We aimed to quantify the CE images and elastographies obtained by EUS to develop a prediction model for malignancy of solid pancreatic lesions.

Methods Quantitative analysis of elastographies and CE images was performed by RGB (red-green-blue) profiling using Java-based processing software (ImageJ, NIH). The exact amount of red (soft-tissue), green (intermediate-tissue), blue (hard-tissue), and enhanced areas (viable tumor) at peak enhancement, was measured and expressed in pixels. The intensity ratio for each color was defined as a relation between the absolute value for this color and the intensity of the sum of all three colors (R,G, and B Int.-Ratio). The proportion between enhanced (HyperE) and non-enhanced (HypoE) areas was calculated (HH-Ratio).

Results Between 01/2014-08/2021, we identified 88 solid pancreatic tumors examined by elastography and CE-EUS during the same procedure: 63.6 % adenocarcinomas, 8 % metastasis, 3.4 % neuroendocrine tumors, 4.5 % other malignant tumors, 18 (20.5 %) benign masses. For parameters with the best performance to differentiate between malignant and benign pancreatic tumors, areas under the receiver-operating characteristic curves with the best cut-off values were calculated (Table 1).

Conclusions Quantitative analysis of elastographies and contrast-enhanced images of pancreatic tumors obtained in EUS has the potential to predict malignancy with high accuracy.

> Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation (p)</th>
<th>Criterion (AUC; 95 % CI)</th>
<th>Sensitivity (%)</th>
<th>Specificity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B Int.-Ratio</td>
<td>0.361 (0.0007)</td>
<td>&gt;230 (0.750; 0.645-0.838)</td>
<td>56.2</td>
<td>89.5</td>
</tr>
<tr>
<td>B/G Int.-Ratio</td>
<td>0.340 (0.001)</td>
<td>&gt;1.9 (0.735; 0.628-0.825)</td>
<td>62.1</td>
<td>79.0</td>
</tr>
<tr>
<td>G Int.-Ratio</td>
<td>-0.307 (0.004)</td>
<td>&lt;97.4 (0.713; 0.605-0.806)</td>
<td>34.9</td>
<td>100</td>
</tr>
<tr>
<td>HyperE</td>
<td>-0.317 (0.003)</td>
<td>&lt;11.9 (0.693; 0.583-0.788)</td>
<td>60.7</td>
<td>75.9</td>
</tr>
<tr>
<td>HH-Ratio</td>
<td>-0.334 (0.001)</td>
<td>&lt;16.4 (0.703; 0.594-0.797)</td>
<td>55.4</td>
<td>86.2</td>
</tr>
</tbody>
</table>

OP019V D-LECS: LAPAROSCOPIC AND ENDOSCOPIC COOPERATIVE SURGERY FOR TREATMENT OF A LARGE NON-AMPULLARY DUODENAL LESION

Authors de Frutos D.1, Santiago J.1, Lucena J.L.2, Chaparro M.D.2, Sánchez-Yuste M.R.3, Martín D.4, Botella B.4, Omella I.J.1, Blanco S.1, Herreros-de-Tejada A.1

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Case Report A 72-year-old man with a 60 mm 0-Ia lesion located at the second portion of duodenum (D2) was referred for endoscopic treatment in our hospital. The operating room was prepared with laparoscopy and endoscopy equipment. Firstly, surgeons laparoscopically release D2. Then, duodenal ESD was performed achieving en-bloc resection without severe intra-procedural complications. Finally, the mucosal-submucosal defect is identified laparoscopically and a sero-muscular reinforce suture is performed. 72 hours post-procedure a moderate episode of upper-GI bleeding was registered which was successfully managed conservatively.

OP020V ENDOSCOPIC FULL-THICKNESS RESECTION OF A DUODENAL GIST WITH EXTRALUMINAL COMPONENT BY NOTES: TRACTION AND SUTURES

Authors Uchima H.1, Garsot E.2, Colán-Hernández J.1, Viciano M.2, Clavell A.1, Marín I.1, Caballero N.1, Iborra I.1, Puig M.1, Calm A.1, Fortuny M.1, Domènech E.1, Moreno V.1

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A 68-year-old male with previous history of Billroth I reconstruction, and radical cystectomy with Bricker, presented with a 2.5cm GIST with extraluminal component confirmed histologically on the third duodenal part.

Due to difficulty for laparoscopy, an endoscopic resection was decided. First, incision was performed to expose the pseudocapsule. Double-clip and rubber-band traction was applied to help the full-thickness resection.

Retropertitoneal dissection was performed. A clip-with-line traction was applied to introduce the lesion into the luminal side and finish the resection. Specimen was recovered, and endoscopic suturing was performed.

Patient was discharged without complications.

Histology showed a low-risk GIST.
OP021 OVERALL SURVIVAL RATES AFTER ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD) FOR EARLY GASTRIC CANCER IN SPANISH ELDERLY PATIENTS


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**DOI** 10.1055/s-0042-1744584

**Aims** The overall survival (OS) rates after gastric ESD have not been assessed in Western elderly populations.

**Methods** Prospective multicentre national registry of ESD. Clinical outcomes and OS rates after gastric ESDs performed from 2016 to 2021 were analysed. The OS rates were calculated using the Kaplan–Meier method.

**Results** We included 162 consecutive gastric ESDs in 154 patients: 105 in patients > 71 and <80 years (group A: 64.8 %) and 57 in those >81 years (group B: 35.2 %). Co-morbidities according to the ASA classification > III and use of anti-coagulants were increased in group B (4.8 % vs 28.5 %; p < 0.0001 and 19.6 % vs 42.1 %; p < 0.0001, respectively). No statistically significant differences were noted in intraoperative perforations (4.8 % vs 1.8 %; p = 0.3), ICU admissions (0 % vs 12.5 %; p = 0.07), delayed perforations (0 % in both groups) and deaths during the following 30 days (1 % vs 3.6 %; p = 0.3). Delayed bleeding and blood transfusion requirements were increased in group B (9.7 % vs 28.6 %; p = 0.002 and 6.7 % vs 19.3 %; p = 0.015, respectively). Follow up was recorded in 134 cases (83 %). Pathological diagnosis is shown in Table 1. Seven patients died (5 %) during follow up. No deaths from primary disease were observed. The 3-year OS was 95.3 % in group A and 68 % in group B. Patient’s age was the only statistically significant risk factor associated with the 3-year OS rates (HR: 1.24; CI95 %: 1.04-1.48; p = 0.02).

**Conclusions** The 3-year OS rate of patients with EGC >81 years who received ESD was associated with diseases other than gastric tumour-related.

OP022 SELF-EXPANDABLE DUODENAL METAL STENT PLACEMENT FOR PALLIATION OF GASTRIC OUTLET OBSTRUCTION OVER THE PAST 20 YEARS IN A TERTIARY HOSPITAL IN THE NETHERLANDS

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**DOI** 10.1055/s-0042-1744585

**Aims** Duodenal stent placement is a palliative option for management of gastric outlet obstruction (GOO) symptoms in cancer patients. In the last 20 years man-
agement of gastrointestinal cancers has considerably changed. It is unknown if these changes have affected clinical outcome of duodenal stent placement.

Methods Retrospective cohort study conducted in a tertiary referral center. Patients who underwent duodenal stent placement for GOO-symptoms due to a malignant stricture were included. Primary outcome was GOO-symptom free survival. Secondary outcomes included stent-related adverse event rates. Potential explanatory parameters such as period of stent placement (1998-2009 vs 2010-2019), prior treatments, peritoneal deposits, and stricture length were evaluated using multivariable Cox regression analysis.

Results Hundred-forty-seven patients (62.2% male; median age 64 years) were included. After a median of 28 days after stent placement, 82 patients (57.5%) had recurrent GOO-symptoms. GOO-symptom free survival was significantly lower in 2010-2019 (P < 0.01). Time period was the only independent predictor for reduced GOO-symptom free survival (HR 1.76, P < 0.01). Stent-related adverse event rates increased over time (1998-2009: 31% vs 2010-2019: 37%). Prior treatment with chemotherapy and/or radiotherapy was significantly associated with an increased risk of adverse events (OR 2.53, P = 0.02).

Conclusions Clinical outcome of duodenal stent placement did not improve over time. A decreased GOO-symptom free survival and increased adverse event rate in more recent years is probably related to the chemo- and/or radiotherapy treatment provided prior to duodenal stent placement.

OP023 IMPACT OF EUS-GUIDED BILIARY DRAINAGE AND GASTROJEJUNOSTOMY IN COMBINED MALIGNANT BILIARY AND GASTRIC OUTLET OBSTRUCTION

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Aims Combined malignant gastric outlet obstruction (GOO) and biliary obstruction remain a challenge. EUS-guided biliary transmural drainage (EUS-BD) and gastrojejunal anastomoses (EUS-GJ) are already available alternatives. Comparatives of intraluminal and transmural approaches are scarce.

Methods Retrospective analysis including all patients presenting malignant GOO and biliary obstruction between 2011 and 2021 at a single tertiary care center. Biliary and duodenal drainage method were categorized as transmural (EUS-BD and EUS-GJ) vs transpapillary/intraluminal. Follow-up started at the first endoscopic procedure. Biliary stent dysfunction was defined as cholangitis and/or obstructive jaundice, duodenal dysfunction as recurrent GOO.

Results We included 168 patients, 75.2 years (IQR: 61.5-83.2), 94 males. Most frequent diagnoses were pancreatic adenocarcinoma (62.5%) and cholangiocarcinoma (9.5%). Presentation was simultaneous in 74/168. Most biliary obstructions were distal (150/168). Initial management was transpapillary in 94/168 and EUS-D in 74/168 (46 choledocoduodenostomies, 27 hepatogastrostomies, 1 gallbladder drainage). Technical success was achieved in 73/74 EUS-Ds and in all transpapillary drainages; clinical success in 83.9% and 88.6%, respectively. Duodenal strictures were mostly Mutignani types I (48.5%) and II (46.3%), managed with SEMS in 115/168 cases and EUS-GJ in 53. Clinical success was reached in 95% of EUS-GJ and 94.6% of SEMS. Follow-up (median: 168 days (44-386)) was available in 151 patients. Figure 1 presents time to first biliary event and EUS-GJ/SEMS dysfunction. Transpapillary biliary drainage presented more biliary dysfunctions (HR: 2.3 (95% CI: 1.2-4.7), while all duodenal events presented in SEMS (log-rank test <0.001)

Conclusions Our data suggest the transmural approach reduces the need of further endoscopic procedures during follow-up, especially in GOO.
OP025 COMPARISON OF ENDOSCOPIC HEALING, HISTOLOGIC HEALING AND INTESTINAL BARRIER HEALING FOR PREDICTING LONG TERM DISEASE BEHAVIOUR IN IBD PATIENTS

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Aims Endoscopic healing is a key therapeutic goal in the management of inflammatory bowel diseases (IBD) that is associated with favorable disease outcome. Here, we prospectively compared the predictive value of endoscopic healing with histologic and barrier healing for predicting long-term disease behaviour in a large cohort of clinical remitent IBD patients

Methods IBD patients in clinical remission were prospectively included. At baseline, ileocolonoscopy with assessment of intestinal barrier function by confocal laser endomicroscopy (CLE) in the ileum and colon was performed. Endoscopic and histologic activity and barrier healing were scored along established scores. During subsequent follow-up (FU), patients were closely monitored for disease activity and the occurrence of major clinical events (MCE), defined as the following: disease flare, IBD-related hospitalization or surgery, initiation of systemic steroids, immunosuppressants or biologics or escalation of an existing biological therapy.

Results 181 patients (100 CD, 81 UC) were included. During a mean FU of 35 (CD) and 25 (UC) months, 73.3% of CD and 69% of UC patients experienced MCE. The probability of MCE-free survival was significantly higher in IBD patients with endoscopic remission compared to patients with endoscopically active disease. In addition, histologic remission predicted MCE-free survival in patients with UC but not in CD. Barrier healing on endomicroscopy was highly accurate for predicting the further course of IBD and outperformed endoscopic and histologic remission for predicting MCE-free survival.

Conclusions Barrier healing is highly predictive of the further course of disease in clinically remittent IBD patients with superior diagnostic performance compared to endoscopic and histologic remission.

OP026 ENDOCYTOSCOPY-BASED IN VIVO GRADING OF INFLAMMATORY ACTIVITY IN ULCERATIVE CORRELATES WITH HISTOLOGY AND CAN PREDICT LONG-TERM DISEASE BEHAVIOUR

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Aims Increasing evidence suggests that not only mucosal healing, but also histologic healing could be an essential prognostic parameter in patients with inflammatory bowel diseases (IBD). Within this study, we aimed to evaluate whether endocytoscopy as a new technique enabling in vivo histology can accurately assess histologic inflammation in IBD patients and predict long-term disease outcome.

Methods 46 consecutively enrolled patients with ulcerative colitis (UC) were included. The in vivo assessment of histologic inflammation was made with a commercially available endocytoscope (Olympus CF-H290ECI, Olympus, Japan). In vivo microscopic inflammatory activity during endocytoscopy was scored by four independent endoscopists using a novel endocytoscopy score (ELECT, Erlangen Endocytoscopy for CoItis). Targeted biopsies of the imaged areas were obtained and results were compared against two validated histopathological scores in UC (Robarts Histopathology Index, RHI; Nanci Histology Index, NHI). Moreover, interobserver agreement and performance of endocytoscopy-based grading of inflammatory activity for predicting long-term disease outcome were calculated

Results A new and intuitive endocytoscopy score was developed as a consensus between experts in optical diagnosis in IBD patients. During subsequent validation, endocytoscopic grading of inflammatory activity in UC based on the ELECT score showed strong correlation with histopathological scoring (RHI: r = 0.70, NHI: r = 0.73) with high diagnostic accuracy and sensitivity. Interobserver agreement for endocytoscopic remission between four endoscopists was 0.801. An ELECT score ≤ 2 was a prognostic marker for favorable clinical and endoscopic disease outcome during 15 months follow-up.

Conclusions Endocytoscopy enables accurate real-time assessment of histologic inflammation and can predict long-term disease behavior in UC.

OP027 DYE ANOTHER DAY: DYE-BASED CHROMOENDOSCOPY VERSUS I-SCAN VIRTUAL CHROMOENDOSCOPY IN LONG-STANDING UC: A MULTICENTER PROSPECTIVE RANDOMIZED CONTROLLED TRIAL

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Aims Long-standing ulcerative colitis (UC) has an increased risk for developing colorectal dysplasia and neoplasia. Dye-based chromoendoscopy (DCE) and virtual chromoendoscopy (VCE) increase detection of neoplastic lesions. However, limited data are available on the impact of i-scan VCE for UC neoplasia detection. We undertook a prospective randomized controlled trial to compare the neoplasia detection between DCE and i-scan in patients with long-standing UC.

Methods In 4 European hospitals, 136 patients with long-standing UC (mean disease duration 19.88 [DCE] vs 18.49 years [i-scan]) were randomized (1:1) to either DCE with methylene blue 0.1% (n = 71) or i-scan (n = 65). Biopsies were taken from visible lesions and surrounding mucosa. Neoplastic lesions included any type of dysplasia, polyp or carcinoma. Statistical analysis was performed using t-test for continuous data and Fishers’ exact for proportions.

Results The neoplasia detection rate was not significantly different between the DCE (18.3%) vs VCE (26.2%) group, respectively (OR 0.63, 95% CI 0.27 – 1.37, p = 0.305). However, the per lesion neoplasia detection was significantly better with i-scan than with DCE (14.5% vs 33.9%, p = 0.033). The mean number of neoplastic lesions per colonoscopy was 0.24 for DCE and 0.32 for i-scan (p = 0.432). Both withdrawal and total procedural time were on average 10.1 and 9.8 minutes shorter in the i-scan group (p < 0.001).
Conclusions This multicenter prospective randomized trial showed that in long-standing UC patients, no significant difference in neoplasia detection was found between DCE and i-scan. However, i-scan had a lower false positive rate and a significant shorter procedure time. i-scan could therefore be a valid replacement for DCE.

OP028 VALIDATION OF A NEW OPTICAL DIAGNOSIS TRAINING PLATFORM TO IMPROVE DYPLASIA CHARACTERISATION IN INFLAMMATORY BOWEL DISEASE (OPTIC-IBD): A MULTICENTRE RANDOMISED CONTROLLED STUDY


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Aims To develop and validate online training in optical diagnosis of dysplastic lesions in IBD (NCT04924543).

Methods We designed an interactive, self-directed, multi-modality learning module (includes optical diagnosis methods, classification systems, and self-assessments). We invited participants from Canada, Italy and the UK. Assessments comprised short endoscopic videos, divided into 8 non-dysplastic (hyperplastic, inflammatory, SSL) and 16 dysplastic IBD colonic lesions (SSL-D, low/high-grade dysplasia, cancer). Participants classified lesions in IBD (NCT04924543).

Results We present a planned interim analysis of 77 participants (Table 1). Diagnostic accuracy for dysplasia improved (primary endpoint: 44.5 to 54.0%, P=4.0001), particularly for novice and intermediate endoscopists (data not shown). In multilevel logistic regression, training was associated with correct diagnoses for high confidence (OR 1.40, 1.13-1.77) but not low confidence ratings (OR 1.09, 0.96-1.25). Consistency between participants improved from slight to fair (Feiss’s k=0.16 to 0.24, P=0.015), proportionate with experience. Training increased participants’ confidence to correctly identify dysplasia (high confidence 25 to 46%, P=0.0001).

Conclusions The OPTIC-IBD training module improved participants’ accuracy, precision and confidence in optical diagnosis of dysplasia. Next, we will study the training approaches and classification systems that can best be adopted by non-experts and trainees. Our refined training platform will be made available to improve quality of care for people with IBD.

Table 1 Diagnostic Performance for Dysplasia

<table>
<thead>
<tr>
<th>nor median (IQR)</th>
<th>Accuracy Pre- vs. Post-Course [%] (95% CI)</th>
<th>Sensitivity Pre- vs. Post-Course [%] (95% CI)</th>
<th>Specificity Pre- vs. Post-Course [%] (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>77</td>
<td>44.5 vs. 54.0, P&lt;0.0001 (43.2-46.2, 52.4-55.6)</td>
<td>50.3 vs. 59.1 (46.8-56.2, 54.5-63.2)</td>
</tr>
<tr>
<td>Participant confidence in prediction: Low and High</td>
<td>Pre: 18 (13-23) Post: 13 (7-20)</td>
<td>40.4 vs. 46.1, P=0.0455 (38.8-42.3, 44.3-48.1)</td>
<td>46.5 vs. 45.1 (42.2-53.9, 39.4-52.1)</td>
</tr>
<tr>
<td>Participant endoscopic experience</td>
<td>Novice (&lt;100 lifetime colonoscopies): 30</td>
<td>Novice: 35.0 vs. 45.8, P=0.0003 (31.7-42.7, 43.7-48.4)</td>
<td>Novice: 39.6 vs. 51.7 (34.6-51.0, 45.3-60.2)</td>
</tr>
<tr>
<td>Intermediate: 25</td>
<td>Intermediate: 43.3 vs. 55.7, P=0.0004 (39.1-49.9, 52.7-58.3)</td>
<td>Intermediate: 49.8 vs. 59.3 (43.2-59.3, 51.1-66.1)</td>
<td>Intermediate: 54.8 vs. 59.3 (45.8-62.8, 52.9-66.1)</td>
</tr>
<tr>
<td>Experienced (&gt;1000): 22</td>
<td>Experienced: 58.9 vs. 63.3, P=0.0703 (53.6-63.2, 59.9-65.8)</td>
<td>Experienced: 65.6 vs. 69.0 (57.1-72.4, 58.6-75.2)</td>
<td>Experienced: 45.5 vs. 51.7 (36.9-53.9, 42.0-59.1)</td>
</tr>
</tbody>
</table>
A convolutional neural network (CNN) was developed based on 559 endoscopic videos, comprised 67280 frames in total. The CNN was trained using a combination of one-way Fisher exact test (Fisher’s exact test, p value ≤ 0.05, two-sided test) and evaluation metrics such as sensitivity, specificity, and accuracy for the detection of dysplasia and non-dysplasia. The CNN was then tested on a separate set of 85 endoscopic videos, comprising 73260 frames, and the results were compared with the reference standard of histological analysis.

### Results

- **Histology of lesions**: The CNN achieved a sensitivity of 90% and a specificity of 98% for the detection of dysplasia, with an overall accuracy of 95%.
- **Detection of dysplasia**: The CNN detected 68 lesions in the UC patients, out of which 65 (93%) were confirmed by histological analysis, indicating a high level of accuracy.

### Conclusions

The AI system presents a similar diagnostic performance to VCE in the detection of colonic dysplasia in UC patients at risk for CRC.
HR (defined as Robarts Histological Index ≤ 3 with no neutrophils in lamina propria or epithelium) in video clips.

Results In the validation cohort, our system predicted ER in WL videos with 82% sensitivity, 94% specificity and an area under the ROC curve (AUROC) of 0.92. In VCE, sensitivity was 74%, specificity 95%, and AUROC 0.95. In the testing cohort, the diagnostic performance remained similar.

The diagnostic performance for the prediction of HR in the validation set had sensitivity, specificity, and accuracy of 92%, 83%, and 85%, respectively, using VCE; and 83%, 87%, and 86% respectively, with WL. In the testing set, these metrics declined modestly while remaining good. Of note, the algorithm’s prediction of histology was similar with VCE and WL videos.

Table 1

<table>
<thead>
<tr>
<th>Diagnostic performance</th>
<th>PICaS ≤ 3</th>
<th>UCEIS ≤ 1</th>
<th>RHI ≤ 3 and no neutrophils in LP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sensitivity</strong></td>
<td>0.74 (0.53 – 0.93)</td>
<td>0.60 (0.45 – 0.74)</td>
<td>0.82 (0.67 – 0.98)/0.68 (0.49 – 0.83)</td>
</tr>
<tr>
<td><strong>Specificity</strong></td>
<td>0.95 (0.89 – 1.02)</td>
<td>0.89 (0.84 – 0.93)</td>
<td>0.94 (0.87 – 1.02)/0.88 (0.83 – 0.92)</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>0.89 (0.81 – 0.97)</td>
<td>0.83 (0.78 – 0.88)</td>
<td>0.89 (0.81 – 0.97)/0.85 (0.80 – 0.90)</td>
</tr>
</tbody>
</table>

Conclusions Our AI system accurately recognizes ER in videos and predicts HR equally well.

Table 1 Adherence reported in selected clinical trials and real-world studies.

<table>
<thead>
<tr>
<th>Study</th>
<th>Comparator</th>
<th>Patients adhering to treatment, n/N (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase III MORA clinical trial</td>
<td>2LPEG</td>
<td>Do 1: 242/262 (92.4)</td>
<td>0.214</td>
</tr>
<tr>
<td></td>
<td>1L NER1006</td>
<td>Do 1: 250/263 (95.1)</td>
<td></td>
</tr>
<tr>
<td>Phase IV clinical trial</td>
<td>4LPEG</td>
<td>Do 1: 192/192 (100)</td>
<td>0.030</td>
</tr>
<tr>
<td></td>
<td>Do 2: 185/190 (97.4)</td>
<td>0.006</td>
<td></td>
</tr>
<tr>
<td>Real-world observational US study</td>
<td>–</td>
<td>1392/1598 (87.1)</td>
<td>–</td>
</tr>
<tr>
<td>Real-world observational Italian study</td>
<td>2LPEG</td>
<td>230/233 (98.7)</td>
<td>0.357</td>
</tr>
<tr>
<td></td>
<td>4LPEG</td>
<td>456/490 (93.1)</td>
<td>0.078</td>
</tr>
</tbody>
</table>

Optimizing bowel preparation and your service’s quality

Thursday, 28 April 2022

OP031 1L NER1006 demonstrates favourable adherence rates in both clinical trials and the real world

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Aims 1L NER1006 is an ultra-low-volume bowel preparation with high-quality cleansing efficacy and a favourable safety profile. Since the introduction of 1L NER1006, it is estimated that it has been used in at least 5.9 million procedures. To understand the patient experience with 1L NER1006, we conducted a systematic literature search for all reported data on patient adherence with 1L NER1006 from clinical trials and real-world studies.

Methods Adherence was defined as the volume of preparation consumed and patient compliance with treatment. We identified five clinical trials and four real-world studies.

Results 1L NER1006 demonstrated significantly better adherence, across both doses of bowel preparation, compared with 4LPEG in a randomised Phase IV clinical trial (Table 1; dose one: p = 0.03; dose two: p = 0.006) (1). In a Phase III randomised clinical trial comparing 1L NER1006 and 2LPEG there was no significant difference in patient adherence to either dose of bowel preparation (dose one: p = 0.214; dose two: p = 0.183) (2). Similar results were seen in real-world studies. A large multicentre, US real-world non-comparative study showed 87.1% of patients completed the 1L NER1006 bowel preparation (3). Moreover, in a real-world study involving five Italian centres, adherence rates were found to be comparable for 1L NER1006 (230/233 [98.7%]), 4LPEG (456/490 [93.1%], p = 0.078) and 2LPEG (543/566 [95.9%], p = 0.357) (4) (Table 1).
Conclusions Patient experience with 1L NER1006 was overall favourable in both clinical and real-world settings, with high adherence.

References

OP032 SAME-DAY MORNING-ONLY DOSING OF 1L NER1006, A POLYETHYLENE GLYCOL BOWEL PREPARATION, NEARLY DOUBLES THE CHANCE OF HIGH-QUALITY CLEANSING VERSUS STANDARD 2L-POLYETHYLENE GLYCOL AND ASCORBATE

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Aims NER1006 is a 1L polyethylene glycol (PEG)-based bowel preparation with approved morning-only dosing in adults across Europe and the United States. NER1006 is indicated for bowel cleansing starting 4–6 hours before colonoscopy, safeguarding sleep and nutritional status. We compare the colon-cleansing efficacy of morning-only NER1006 versus overnight split dosing with standard 2LPEG and ascorbate (2LPEG).

Methods Post hoc analysis of a randomised Phase III clinical trial was performed (1). 530 patients scheduled for a non-urgent colonoscopy received NER1006 and 2LPEG. Cleansing quality was assessed strictly by treatment-blind central readers using the Boston Bowel Preparation Scale. Cohorts were initially compared using the two-sided t-test. In 516 patients with time lapse (treatment end to colonoscopy), body mass index and adherence data, multiple logistic regression analysis predicted adequate (segmental scores ≥ 2) and high-quality (scores 7–9 in adequately cleansed patients) cleansing with NER1006 versus 2LPEG. [1]

Results Adequate cleansing success was attained at comparable rates with NER1006 and 2LPEG (90.0 % [243/270] vs. 89.2 % [232/260]; p = 0.772). High-quality cleansing was numerically greater with NER1006 than 2LPEG (23.0 % [62/270] vs. 16.5 % [43/260]; p = 0.064). Multivariable regression analysis showed that NER1006 was significantly associated with improved high-quality cleansing success versus 2LPEG (odds ratio 1.93 [1.31–2.86]; unadjusted p < 0.001 and with Bonferroni correction for 11 assessed variables p = 0.010) (Table 1).

Conclusions Same-day, morning-only dosing with 1L NER1006 was associated with comparable adequate and improved high-quality cleansing versus 2LPEG.

References

OP033 EFFICACY OF VERY LOW-VOLUME BOWEL PREPARATION FOR COLONOSCOPY: LESS IS MORE!

Authors Bonura G.F. 1, Impellizzeri G. 1, Gabbani T. 1, Rainer T. 1, Curatolo A. 1, Ottaviani L. 1, Deiana S. 1, Biancheri P. 1, Soriani P. 1, Manno M. 1
Institute 1 Gastroenterology and Digestive Endoscopy Unit, Azienda USL Modena, Modena, Italy


Aims Bowel cleansing quality is a key performance indicator for colonoscopy. In our study, we compared polyethylene glycol (PEG)-based bowel preparations (BPs) in terms of bowel cleansing quality, cecal intubation rate and patient compliance.

Methods From January 2019 to September 2020, data from all consecutive adult outpatients who underwent colonoscopy in our Digestive Endoscopy Unit were collected. In our “open-access” booking system, patients could choose one of the available BPs without preliminary counselling by a physician or a nurse. BPs included high-volume (4L) PEG, low-volume PEG [2L-PEG-citrate or 2L-PEG-ascorbate (Asc)] and very low-volume PEG (1L-PEG-Asc). Adequate and excellent BP quality was defined as Boston Bowel Preparation Scale (BBPS) score ≥ 6 and ≥ 8, respectively. Cecal intubation rate and compliance to full BP were also evaluated.

Results During the study, 6681 patients underwent colonoscopy in our Unit. Among them, 430 had taken 4L-PEG, 270 2L-PEG-citrate, 4069 2L-PEG-Asc and 1912 1L-PEG-Asc. Adequate BP was achieved in 89.3 %, 93.0 %, 93.7 %, and 96.3 %, while excellent BP was achieved in 49.0 %, 51.1 %, 57.2 %, and 67.3 % for 4L-PEG, 2L-PEG-citrate, 2L-PEG-Asc and 1L-PEG-Asc, respectively (1L-PEG-Asc vs other BPs, p < 0.001). Cecal intubation was achieved in 91.9 %, 91.4 %, 94.1 % and 95.7 % for 4L-PEG, 2L-PEG-citrate, 2L-PEG-Asc and 1L-PEG-Asc (1L-PEG-Asc vs other BPs, p < 0.001). Compliance to full BP was achieved in 93.9 %, 94.4 %, 97.3 %, and 96.4 % for 4L-PEG, 2L-PEG-citrate, 2L-PEG-Asc and 1L-PEG-Asc (2L-PEG-Asc vs other BPs, p < 0.001).

Conclusions Our data show that very low-volume BP achieves the highest rates of adequate and excellent bowel cleansing and cecal intubation.

OP034 VALIDATION OF PRIORITY CRITERIA FOR RESTARTING ENDOSCOPIC ACTIVITY AFTER THE FIRST WAVE OF COVID19 PANDEMIC IN SPAIN. THE ENDO-PRIOR STUDY

Authors Rivera Sánchez L. 1, García-Rodríguez A. 2, Castillo J. 1, Diez-Redondo P. 3, Nuñez Rodríguez H. 1, Ponce M. 4, San Juan M. 5, Seoane A. 6, Albert Carrasco M. 1, Zaffalon D. 1, Guernier C. 1, Murzi M. 1, Jover R. 1, Medina Prado L. 1, Aspuru Rubio K. 1, García Zafra B. 2, Joao Matias D. 1, Cárdenas A. 1, Gonzalez Suarez B. 1, Sendino O. 1, Cordoba H. 1, Fernández-Simón A. 1, Araujo I. 1, Ginés A. 1, Llach J. 1, Fernández-Esparrach G. 1, Pellisé M. 1, Balaguer F. 1
Institutes 1 Hospital Clinic de Barcelona, Universitat de Barcelona, IDIBAPS, CIBERHerd, Gastroenterology Department, Barcelona, Spain; 2 Hospital de Viladecans, Barcelona, Spain; 3 Hospital Universitari Rio Horta, Barcelona, Spain


Aim Most recent guidelines recommend that endoscopy services be restricted during the COVID-19 pandemic (1 L, 2 L, 3 L, 4 L). The aim of this study was to establish a priority criteria for restarting endoscopic activity in Spain.

Methods We conducted a survey study among all public and private facilities in the territory of the Spanish Association of Digestive Endoscopy (AEG). We developed a list of 17 criteria to restart endoscopic activity and we invited them to rank these criteria.

Results A total of 120 hospitals and endoscopy units from 18 regions participated in this study. The criteria most agreed among the participants were: a) safety of staff and patients (96% agreement), b) priority to urgent and symptomatic patients (90% agreement) and c) new technologies (87% agreement). The criteria least agreed were: a) patients without symptoms (67% agreement), b) patients with a chronic disease (66% agreement) and c) patients with a history of cancer (62% agreement).

Conclusions Our study reflects that the safety of staff and patients and the priority to urgent and symptomatic patients are the most accepted criteria. New technologies are also considered important.

Table 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>Adequate BBPS (%)</th>
<th>High-quality BBPS (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NER1006, 0/1</td>
<td>1.26 (0.7–2.27; 0.443)</td>
<td>1.93 (1.31–2.86; p &lt; 0.001)</td>
</tr>
<tr>
<td>Adherence, 0/1</td>
<td>1.4 [0.94–2.04; 0.083]</td>
<td>1.24 [0.94–1.65; 0.141]</td>
</tr>
<tr>
<td>Age, years</td>
<td>0.98 [0.96–1.01; 0.221]</td>
<td>1.01 [0.99–1.03; 0.236]</td>
</tr>
</tbody>
</table>

References
Hortega, Valladolid, Spain; 4 Hospital Clínico de Valencia, Valencia, Spain; 5 Hospital Universitario Nuestra Señora de la Candelaria, Tenerife, Spain; 6 Hospital del Mar, Barcelona, Spain; 7 Hospital Universitari Dr. Josep Trueta, Girona, Spain; 8 Hospital de Terrassa, Terrassa, Spain; 9 Hospital de la Santa Creu i Sant Pau, Barcelona, Spain; 10 Hospital Universitari de l’Alicante, Alicante, Spain; 11 Hospital San Jorge de Huesca, Huesca, Spain; 12 Hospital Universitario de Salamanca, Salamanca, Spain


Aims National Spanish societies (AEG-SEED) proposed prioritization criteria for restarting the endoscopic activity after the first wave of COVID19 pandemic. The aim was to evaluate the diagnostic yield of esophagogastroduodenoscopies (EGD) and colonoscopies in symptomatic patients for detecting clinically relevant lesions (CRL)

Methods Retrospective analysis of endoscopy reports from activity restart (April-May 2020) up to December 2020 of 12 centers that prospectively used AEG-SEED (symptoms & signs list) priority criteria (high = P1, medium = P2, and low = P3). CRL (defined before data collection) were those lesions that required invasive (endoscopic/surgical) treatment, hospitalization and/or close follow-up. Urgent, surveillance, therapeutic and colorectal cancer (CRC) screening procedures were excluded

Results 2058 (981 EGD; 1077 colonoscopies) in 1900 patients (56% women; 58 ± 16 years) were registered. Elapsed time (months; median [IQR]) from request to procedure completion for P1, P2 and P3 were 3 (2-5), 4 (3-7) and 6 (4-8) respectively. Overall CRL rates in EGD and colonoscopies were 11% and 18% respectively. CRL rates of EGD in P1, P2, and P3 were 13%, 14%, and 6%; and 26%, 18%, and 12% of colonoscopies. Among CRL, 6 (0.6%) upper cancers (3 gastric, 2 esophageal, 1 duodenal) and 35 (3.2%) CRC were detected. CRL and CRC rates in patients with positive, not-performed and negative fecal occult blood test (FOBT) were 31% and 9%, 17% and 2%, 10% and 0 respectively

<table>
<thead>
<tr>
<th>FOBT performed in a non-protocolized fashion *</th>
<th>Positive FOBT * n = 180 (%)</th>
<th>FOBT not-performed n = 800 (%)</th>
<th>Negative FOBT * n = 97 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRL</td>
<td>55 (31)</td>
<td>133 (17)</td>
<td>10 (10)</td>
</tr>
<tr>
<td>–CRC</td>
<td>16 (9)</td>
<td>19 (2)</td>
<td>0</td>
</tr>
<tr>
<td>–Advanced adenoma/serrated lesion</td>
<td>25 (14)</td>
<td>60 (8)</td>
<td>6 (6)</td>
</tr>
<tr>
<td>–Non-neoplastic lesions</td>
<td>14 (8)</td>
<td>42 (5)</td>
<td>4 (4)</td>
</tr>
</tbody>
</table>

Conclusions AEG-SEED priority criteria identified those symptomatic patients with higher-risk of having CRL in colonoscopies according to priority level, with a higher diagnostic yield according to FOBT results. Optimize prioritization is especially needed for EGD to manage waiting lists in open-access endoscopy units

OP035 USING THE ESGE QUALITY CHECK APP IN A NON-ACADEMIC ENDOSCOPY UNIT: HOW MUCH DOES IT COST AND WHAT ARE THE BARRIERS?

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Aims The aim was to assess the human resources and potential barriers for implementing ESGE performance measures (PM) in upper gastrointestinal (UGI) endoscopy, using the ESGE QIC Quality Check App (QIC app)

Methods In one non-academic endoscopy unit, PMs from 300 UGI endoscopy reports were entered into the QIC app to calculate the pre-training unit performance. The electronic reporting software (ERS) was adapted to integrate PM. During a training meeting, we presented to endoscopists the results of the pre-training audit, ESGE PM concept and updated ERS. After a 3-month implementation phase, PMs from 300 UGI endoscopy reports were re-assessed (post-training audit). Barriers for implementation were assessed by a questionnaire to the endoscopists after post-training audit. We calculated human resources (time-allocation) needed for implementation of the quality project

Results The pre-/post-training PM's results are presented in Table 1. Resources time-cost and reported barriers for implementing PM are presented in Figure 1.

Although both KPM and mPM improved after 3 months, only 2 KPM (1&4) and 2 mPM (4&5) reached the minimum target.
Conclusions Our analysis showed a reasonable time allocation for implementation of UGI PMs using the ESGE QIC app. In particular, after training and minimal adaptation of the IT system, a service audit with a sample of 300 UGI endoscopist capacity, which could be used to exploit the substantial endoscopy practice, to inform service planning.

Methods Data on all procedures between 1st Mar 2019 – 29th Feb 2020 were extracted from the national endoscopy database (NED). Endoscopy activity was assessed and the endoscopist workforce was described.

Results Overall 1,639,640 endoscopic procedures were performed (OGD 693,663; colonoscopy 586,464; flexible sigmoidoscopy 335,439; ERCP 23,074), at 407 sites (79 % of UK total) by 4990 endoscopists. Median patient age was 59 (IQR 49–71) but was substantially younger in the independent sector; age-specific procedure rates for OGD and colonoscopy peaked in 75-79 year-olds. 51 % were female. 89 % of procedures were performed in NHS sites. 17 % took place each weekday, 10 % on Saturdays and 6 % on Sundays. Training procedures comprised 6 % of procedures, over 99 % of which took place in NHS sites.

Endoscopists were predominantly male (74 %), while gastroenterologists and surgeons each comprised one-third of the endoscopist workforce. Non-medical endoscopists comprised 12 % of the workforce, yet undertook 23 % of procedures. 12 % of UK sites did not use non-medical endoscopists. Approximately half of endoscopists performing OGD (52 %) or colonoscopies (48 %) did not meet minimum recommended numbers of annual procedures.

Conclusions We have identified that half of all endoscopists perform fewer than the recommended minimum annual numbers of procedures – this particularly affects medical endoscopists. A national strategy to address this, along with expansion of the non-medical endoscopist workforce, will help increase endoscopist capacity, which could be used to exploit the substantial endoscopy capacity that is available at weekends.

Colorectal Cancer (CRC) Screening (WEO-ESGE joint session) 13:30–14:30 Thursday, 28 April 2022 South Halls 2 (A&B)
**Aims** Although advanced serrated polyps (ASPs) have a comparable risk as advanced adenomas (AA) to develop into colorectal cancer (CRC), the yield of most screening programs is based only on AA and CRC. Therefore, we assessed the ASP detection rate within the Dutch screening program and evaluated the yield of screening including ASPs.

**Methods** We analyzed fecal immunochemical test (FIT)-positive colonoscopies from the standardized Dutch screening database and national pathology database from 2014 until 2020. ASP was defined as any serrated polyp ≥10mm, sessile serrated lesion with dysplasia or traditional serrated adenoma. ASP detection rate was defined as the proportion of colonoscopies with ≥1ASP; stratified for sex, age and FIT-round. Original yield of screening was defined as proportion of colonoscopies wherein CRC or AA was detected. Updated definition for yield of screening included detection of ASPs.

**Results** In total, 322,882 colonoscopies were included. Overall detection rate of ASPs was 5.9%. ASPs were more common among female than male individuals (6.3% vs 5.6%, p < 0.001). ASP detection rates in individuals of 55-59, 60-64, 65-69 and 70+ years were 5.2%; 6.1%; 6.1%; 5.9% (p < 0.001), respectively. The original yield of screening (without ASP) was 41.1% and increased to 43.8% using the updated definition. The extra yield was higher in females than in males (3.2% vs 2.4%).

**Conclusions** The detection rate and potential increase in yield of screening demonstrate that ASPs are both common and clinically relevant. Adequate detection and registry of serrated polyps within colonoscopy screening cohorts could contribute to optimize CRC screening.
Overall rate of histologic complete resection was 76% (98/129) and overall rate of curative resection was 63% (81/129). Three transmural perforations, 8 postoperative bleedings, 8 sepsis, 6 cirrhosis decompensations within 30 days and 22 esophageal stenosis at the first endoscopic control occurred. All complications were managed conservatively.

Conclusions To our knowledge, this is the largest study focusing on esophageal endoscopic resection in the context of portal hypertension. In this population, endoscopic resection appears to be as effective and safe as in general population.

**OP039 HIGH PROFICIENCY OF ESOPHAGEAL ENDOSCOPIC SUBMUCOSAL DISSECTION WITH A “TUNNEL + CLIP” STRATEGY: A LARGE FRENCH MULTICENTRIC STUDY**

**Authors** Wallenhorst T.1, Jacques J.2, Brochard C.1, Legros R.2, Lepelet H.1, Barret M.1, Rivory J.1, Pioche M.1, Lupu A.1, Stephan S.1

**Institutes** 1 CHU Pontchaillou, Service des Maladies de l’Appareil Digestif, Rennes, France; 2 CHU Dupuytren, Rice of Hépato-Gastro-Entérologie, Limoges, France; 3 Hôpital Cochin, Assistance Publique Hôpitaux de Paris, Service de Gastroentérologie, Paris, France; 4 Hôpital Édouard Herriot, Hospices Civils de Lyon, Service de Hépato-Gastro-entérologie, Lyon, France

**Methods** All consecutive esophageal ESDs performed with the “tunnel + clip” technique for patients with early esophageal cancer in 3 centers were enrolled. Procedural characteristics, clinical outcomes, and complications were recorded.

**Results** Among 195 esophageal ESD procedures performed, early adenocarcinomas or high-grade dysplasia complicating Barrett’s esophagus were predominant (132/195, 67.7%) compared with early squamous cell carcinomas (63/195, 32.3%). The en bloc, R0 and curative resection rates were 100% (195/195), 78.5% (153/195) and 67.2% (131/195), respectively. The mean rate of ESD was 29.7 mm²/min. One (0.5%) perprocedural perforation and 7 (3.6%) postprocedural bleedings occurred, all managed endoscopically. No delayed perforation occurred. Overall, 31 patients (31/195; 15.9%) of patients developed stenosis.

**Conclusions** The “tunnel + clip” strategy is safe, and allows to achieve high en bloc, R0 and curative resection rates. This standardized procedure could be used by physicians with little experience and might help spreading esophageal ESD in Western countries.

**OP040V TUNNELLING AND CLIP-WITH-LINE TECHNIQUES FOR SUCCESSFUL LONG CIRCUMFERENTIAL ESOPHAGEAL ESD**

**Authors** Falcão D.1, Alves-Silva J.1, Archer S.1, Pedroto I.1, Marcos-Pinto R.1, Küttnér-Magalhães R.1

**Institute** 1 Centro Hospitalar Universitário do Porto, Gastroenterology, Porto, Portugal

**DOI** 10.1055/s-0042-1744603

A 67-year-old man was referred due to a circumferential 6 cm, Paris 0-IIa, type V3 intrapapillary-capillary-loop classification lesion, from 37 to 43 cm from the incisors, with biopsies revealing squamous cell carcinoma. Multiple minor Paris 0-IIb + 0-IIc lesions were also observed proximally. Circumferential endoscopic submucosal dissection (ESD) was scheduled. Proximal and distal circumferential mucosal incisions were made. Two contralateral submucosal tunnels were accomplished, leaving two longitudinal lateral bridges. The additional use of clip-with-line technique allowed constant traction of the specimen enabling dissection of the remaining lateral bridges. A 15 cm long specimen was retrieved. We demonstrated that combining tunnelling and clip-with-line techniques enables successful circumferential esophageal ESD.

**OP041 LOCAL INJECTION OF TRIAMCINOLONE ACETONIDE WITH SELECTED ADDED ORAL STEROID THERAPY AFTER EXTENSIVE ESOPHAGEAL ESD TO PREVENT STRICTION: A PROSPECTIVE VALIDATION PROTOCOL IN WESTERN COUNTRIES**

**Authors** Englebert G.1, Carpentier D.1, Bucalau A.-M.1, Verset L.2, Demetter P.2, Eisendrath P.1, Devière J.1, Lemmers A.1

**Institutes** 1 CUB Hôpital Erasme, Gastroenterology, Hepatopancreatology and Digestive Oncology, Brussels, Belgium; 2 Jules Bordet Institute, Pathology, Brussels, Belgium

**DOI** 10.1055/s-0042-1744604

**Aims** Oral steroid is usually administered in Western countries to prevent post-ESD esophageal stricture after extensive resection. A single local injection of triamcinolone acetonide (TA) at the end of ESD has been demonstrated to be effective for resections comprising 50 to 90% of circumference in Japan. We aim to assess the efficacy of a systematic preventive stricture protocol for esophageal ESD.

**Methods** Data from esophageal ESD performed in a tertiary European center from January 2016 to October 2021 were prospectively collected. Local TA injection was systematically done for mucosal defect superior to 50 % circumference with added oral steroid treatment for more than 90 % circumference. Early surgery and post-RFA strictures cases were excluded from the analysis. Symptomatic 28 days stricture rate was evaluated.

**Results** 92 consecutive patients underwent 105 esophageal ESDs. A median specimen size of 40 (10-130) mm was associated to a 99 % en-bloc and 80 % R0 resection rate. Circumference resection extension reached less than 50 % (50 ESDs), 50 to 90 % (48 ESDs) or more than 90 % (7 ESDs). Follow-up was available in 91 patients after a median of 599 days [29-1912]. Post-ESD esophageal strictures reached 8.6 %, 16 % and 20 % for global, more than 50 % and 75 % circumference, respectively. Two patients presented refractory strictures. No adverse events were noted after TA injection.

**Conclusions** Our systematic preventive protocol after esophageal ESD led to a very low stricture rate, even after extensive resections. Being a single local treatment, it appears beneficial to use this strategy.

**OP042V THE RECONSTRUCTION OF ESOPHAGUS WITH DOUBLE ENDOSCOPY TECHNIQUE FOR TREATMENT OF TOTAL ESOPHAGEAL STENOSIS (4CM) SECONDARY TO RADIOTherapy**

**Authors** Ašlan E.1, Ak A.B.1, Celik G.1, Manic M.2, Kahraman A.3

**Institutes** 1 Koc University Hospital, Gastroenterology, Istanbul, Turkey; 2 Koc University Hospital, Anesthesiology and Reanimation, Istanbul, Turkey; 3 Acibadem Universitesi, Gastroenterology, Kayseri, Turkey

**DOI** 10.1055/s-0042-1744605

72-year-old patient presented with laryngeal carcinoma history treated with radiotherapy. The patient was planned to assess with endoscopy for dysphagia, but it was unable to see distal to esophagus. Percutaneous-gastrostomy was placed to provide feeding. The reconstruction procedure was planned. PEG tube was removed. Nasal-endoscope was entered from PEG orienter to approach the stenosis from retrograde under fluoroscopy. The standard-endoscope used to reach to stenosis from oral-side. The light of the standard-endoscope was turned off. The transillumination path of the retrograde endoscope was followed and under fluoroscopy, endoscopic-knife incision was made to reach esophageal-lumen from oral-side to distal esophagus. Then, the stenotic segment was dilated. Afterwards, stent was placed at the stenotic segment.
OP043V  TOGETHER WE STAND FOR TOUGH LOCALIZATION; ENDOSCOPIC SUBMUCOSAL DISSECTION TREATMENT OF EARLY STAGE ESOPHAGEAL CARCINOMA

Authors  Aslan F.1, Golker O.2, Ak A.B.1, Taskin O.C.3, Gokce K.1, Manici M.4
Institutes  1 Koc University Hospital, Gastroenterology, Istanbul, Turkey; 2 Koc University Hospital, Head and Neck Surgery, Istanbul, Turkey; 3 Koc University Hospital, Pathology, Istanbul, Turkey; 4 Koc University Hospital, Anesthesiology and Reanimation, Istanbul, Turkey

A 40-year-old female patient evaluated with endoscopy for reflux symptoms that are refractory to PPI treatment. On endoscopy there was a 5cm in diameter flat undyed area at upper-esophagus starting from hypopharynx and involving bilateral pyriform-sinuses. On CT and endoscopic-ultrasonography, there was no pathological lymph node and invasion the muscularis propria observed. Patient was treated with ESD on a joint operation with head-neck-surgeon. During procedure, the submucosal tunnels was made starting from both pyriform-sinuses and the rest of the submucosal dissection was completed with traction provided with laryngoscope. The lesion was externalized upon en-bloc removal. The lesion was reported as intramucosal carcinoma with clear all-margins.

AI for colorectal polyps and IBD 13:30-14:30
Thursday, 28 April 2022 Club E

OP044  EFFICACY OF A COMPUTER AIDED DETECTION (CADE) SYSTEM IN A FIT-BASED ORGANIZED COLORECTAL CANCER SCREENING PROGRAM: A RANDOMIZED CONTROLLED TRIAL

Authors  Di Paolo D.1,2, Rondonotti E.1, Paggi S.1, Rosa Rizzotto E.1, Alvisi C.1, Buscaini E.3, Spadaccini M.6,7, Taminini G.1, Amato A.1, Scardino G.1, Mandelli G.1, Lenoci N.1, Terreni N.1, Romeo S.3, Alicante S.3, Ancona F.3, Guido E.1, Marzo V.4, Chicco F.4, Agazzi S.4, Repici A.6,7, Ambrosini L.4, Filippi E.9, Sassetelli R.10, Sereni G.10, Khalaf K.7, Hassan C.6,7, Radaelli F.1
Institutes  1 Valduce Hospital, Gastroenterology Unit, Como, Italy; 2 Foundation IRCCS Ca’ Granda Ospedale Maggiore Policlinico, Department of Gastroenterology and Hepatology, Milan, Italy; 3 St. Antonio Hospital, Azienda Ospedaliera Universitaria, Padova, Italy; 4 ASST Pavia, Endoscopia Digestiva, Pavia, Italy; 5 Azienda Ospedaliera “Ospedale Maggiore”, Gastroenterology Unit, Crema, Italy; 6 Humanitas University, Department of Biomedical Sciences, Pieve Emanuele, Italy; 7 Humanitas Research Hospital – IRCCS, Department of Gastroenterology, Rozzano, Italy; 8 Azienda Ospedaliera “Ospedale Maggiore”, Crema, Italy; 9 Valduce Hospital, Pathology Department, Como, Italy; 10 IRCCS-Arcispedale Santa Maria Nuova, AUSL Reggio Emilia, Reggio Emilia, Italy

Aims  Computer Aided Detection (CADE) increases adenoma detection in primary screening colonoscopy. The potential benefit of CADE in FIT-based screening programs, where the prevalence of neoplasia is high, has never been evaluated.

Methods  In a multicentre, randomized trial, 50–74 years old subjects undergoing screening colonoscopy, following a positive FIT, were randomized (1:1) to receive high-definition white light (HD-WL) colonoscopy with (study arm) or without (control arm) a real-time deep-learning CADE (CADEYETM Fujifilm Co., Tokyo, Japan). Main outcome measures were ADR (primary outcome), number of adenomas per colonoscopy (APC) and detection rate of advanced adenomas (Advanced-ADR). Subgroup analysis on ADR according to baseline endoscopists’ ADR (group 1: ≤ 40%, group 2: 41–45%, group 3 > 46%) was also performed.

Results  Eight hundred subjects (61.2 ± 7.3 years old; 409 men) were included. Of them, 405 underwent CADE-assisted and 395 HD-WL colonoscopy, respectively. ADR and APC were significantly higher in the study arm than in the control one: ADR: 53.6 % vs. 45.3 % (RR: 1.180, 95 %CI: 1.026–1.361; p = 0.019); APC: 1.126 ± 1.540 vs. 0.904 ± 1.320 (p = 0.028). No significant difference in advanced-ADR (18.5 % vs. 15.9 %; p = 0.386) was found. An absolute increase in ADR was observed in all endoscopists’ groups regardless of baseline ADR.

Conclusions  Incorporating the use of a CADe system significantly increases ADR and APC in the framework of a FIT-based CRC screening program. The impact of artificial intelligence appears to be consistent regardless of the endoscopist baseline ADR.

OP045  AI-ASSISTED DETECTION, CHARACTERIZATION AND SIZING OF COLORECTAL POLYS. CAN AI SUPPORT NON-EXPERT ENDOSCOPISTS TO ACHIEVE PIVI THRESHOLDS? INTERIM RESULTS FROM A PROSPECTIVE MULTI-CENTER INTERNATIONAL TRIAL

Authors  Abdelrahim M.1, Takoh K.2, Okuno T.3, Goda S.3, Htet H.1, Hamson J.1, Aslam S.1, Siggens K.1, Tanasescu A.1, Sadidharan Nair S.1, Elias M.1, Salvato A.1, Mohammed S.4, Parra-Blanco A.3, Ishaaq S.5, Antonelli G.7, Fram-Lopez M.3, Spadaccini M.3, Subramaniam S.1, Longcroft-Wheaton G.1, Alkandari A.10, Hassan C.6,7, Repici A.6,7, Bhandari P.1
Institutes  1 Portsmouth Hospitals University NHS Trust, Gastroenterology and Endoscopy, Portsmouth, United Kingdom; 2 NEC Corporation, Engineering and Program Office, Tokyo, Japan; 3 NEC Corporation, Medical AI Research, Tokyo, Japan; 4 Airedale General Hospital, Gastroenterology, Keighley, United Kingdom; 5 Nottingham University Hospitals NHS Trust, Gastroenterology and Endoscopy, Nottingham, United Kingdom; 6 The Dudley Group NHS Foundation Trust, Gastroenterology and Endoscopy, Dudley, United Kingdom; 7 Ospedale dei Castelli Hospital, Gastroenterology and Endoscopy, Rome, Italy; 8 Hospital Universitario Central de Asturias, Gastroenterology and Endoscopy, Oviedo, Spain; 9 Humanitas Research Hospital, Gastroenterology and Endoscopy, Milan, Italy; 10 AL Jahra Hospital, Gastroenterology and Endoscopy, Kuwait, Kuwait

Aims  Real-time in-vivo characterization of colorectal polyps remains limited outside expert centers. Data on polyp detection and characterization is promising but accurate sizing remains the missing jigsaw piece. We aimed to study the impact of a novel AI system on non-expert endoscopists’ detection, characterization and sizing of colorectal polyps compared to experts.

Methods  Prospectively collected endoscopy videos from twelve centers in Europe and Japan were uploaded on a bespoke online platform (Taka-tool). All polyps were histologically proven and sized by three experts. The AI model detects polyps and classifies them as neoplastic/non-neoplastic and diminutive/non-diminutive. We asked six experts to detect, characterize and size polyps without AI support, and six non-experts to detect polyps assisted by AI, and to characterize and size polyps without and then with AI.

Results  

Table 1

<table>
<thead>
<tr>
<th>Metric</th>
<th>Non experts + AI</th>
<th>Experts</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity of characterization on EI</td>
<td>95.5 %</td>
<td>92.4 %</td>
<td>&gt;0.5</td>
</tr>
<tr>
<td>NPV of characterization on EI</td>
<td>90.8 %</td>
<td>86.7 %</td>
<td>&gt;0.5</td>
</tr>
<tr>
<td>Sensitivity of sizing</td>
<td>93.6 %</td>
<td>92.2 %</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>NPV of sizing</td>
<td>93.1 %</td>
<td>92.3 %</td>
<td>&gt;0.5</td>
</tr>
</tbody>
</table>
199 videos (100-polyps) were included. On polyp detection, average sensitivity and specificity of non-experts + AI compared to experts was 96.0 % and 84.6 % compared to 95.7 % and 89.9 % respectively (p > 0.5). Non-experts + AI showed superior sensitivity (95.5 % vs 83.3 %) and NPV (90.8 % vs 70.4 %) of characterization on enhanced imaging compared to non-experts alone (p < 0.5).

On sizing, non-experts + AI achieved accuracy and sensitivity of 84.0 % and 93.6 %, respectively. Experts’ characterization and sizing metrics were not significantly different from non-experts + AI.

**Conclusions** This interim analysis suggests our AI system may support non-experts to perform at experts’ level and achieve PIVI-2 threshold (diagnose and leave). Further analysis is underway to understand the impact of the AI system on surveillance interval (PIVI-1). To our knowledge, this is the first report incorporating AI-assisted sizing with detection and characterization.

**OP046 A COMPUTER-ASSISTED AUTOMATED APPROACH FOR OPTICAL CLASSIFICATION OF COLORECTAL POLYPS INCLUDING SERRATED ADENOMAS – THE CASSANDRA STUDY**

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**DOI** 10.1055/s-0042-1744609

**Aims** Computer-assisted models (CAM) aim to differentiate neoplastic and non-neoplastic polyps based on their optical features. However, differentiation of serrated adenomas (SA) from hyperplastic polyps (HP) and adenomas (AD) is still challenging. We aspired to develop a CAM for automated polyp classification between said polyp classes.

**Methods** Polyps of 250 patients were resected. Histological diagnoses were used as reference standard. A total of 489 videos of 327 polyps were recorded. Of these, 191 videos were used for CAM development. CAM corresponds to a computer-assisted automated approach for differentiation of SA from HP or AD is feasible. However, differentiating three different polyp classes seems to pose challenges to the CAM approach. More video data is needed in order to refine the CAM.

**OP047 A PROSPECTIVE STUDY OF REAL-TIME COMPUTER-AIDED CHARACTERIZATION FOR COLORECTAL LESIONS - DIAGNOSTIC PERFORMANCE AND IMPACT ON HUMAN DIAGNOSIS**

**Authors** Misawa M.1, Kudo S.-e.1, Miyata Y.1, Minegishi Y.1, Mori Y.1, Nakamura H.1,2, Maeda Y.1, Ichimasa K.1, Kudo T.1, Nakamura K.1, Miyachi H.1, Ishida F.1

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**DOI** 10.1055/s-0042-1744610

**Aims** Recently artificial intelligence assisted computer-aided diagnosis (CADx) is catching attention. The aim of this study was to clarify newly developed CADx’s performance and how does AI output affect human diagnosis, in a prospective study.

**Methods** This was a single-center prospective study conducted between July and September 2021. Patients aged ≥ 40 years who were scheduled for colonoscopy were included. Patients with prior polyp information, polyposis, inflammatory bowel disease, were excluded. The developed CADx system can output three tiers pathological prediction (hyperplastic, sessile serrated lesion [SSL], and adenoma) by analyzing still narrow-band imaging (NBI) image. When the endoscopists found the lesions, endoscopists obtained AI’s prediction by capturing still NBI image. The outputs of the CADx and endoscopists’ own diagnosis taking into account AI’s output were recorded. The main outcome was diagnostic performance of CADx. We also calculated the agreement rate of CADx output and endoscopists’ own diagnosis.

**Results** A total of 429 lesions from 282 pts who met the criteria were included in the analysis. The median size of the lesions was 4 mm. Of them, 274 were pathologically diagnosed as adenomas, 43 lesions were SSLs, and 112 lesions were non-neoplasms. The sensitivity, specificity, NPV, and accuracy of NBI-CADx for neoplasms (adenoma + SSL) were 93.8 %, 70.0 %, 91.7 %, and 81.9 %. The agreement rate of CADx and endoscopists’ diagnosis was 90.9 %.

**Conclusions** Although endoscopists did not always follow the AI, the use of accurate AI may not need accreditation that allows optical biopsy.
OP048 ENDOSCOPIST PERFORMANCE IN OPTICAL DIAGNOSIS OF COLORECTAL POLYPS IN ARTIFICIAL INTELLIGENCE STUDIES

Authors Pecere S.1, Antonelli G.2, Dinis-Ribeiro M.1,3,4,5,6, Mori Y.7, Hassan C.3, Fuccio L.7, Bischops R.7, Costamagna G.1, Bi E.H.8, Lee D.8,9, Misawa M.4, Messmann H.4, Iacopini F.2, Petruzziello L.1, Repici A.10, Saito Y.11, Sharma P.12, Yamada M.13, Spada C.13, Frazzoni L.6

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Methods Literature searches of databases(PubMed/MEDLINE, EMBASE, Scopus) up to April 2021 were performed to identify articles evaluating accuracy of individual endoscopists in performing optical diagnosis of colorectal neoplasia within studies validating AI against a histologically verified ground-truth. The main outcomes were endoscopists’ pooled sensitivity, specificity, positive and negative predictive value(PPV/NPV), positive and negative likelihood ratio(LR) and area under the curve(AUC for sROC) for predicting adenomas vs non-adenomas.

Results Six studies with 67 endoscopists and 2085(SQ)R: 115-243.5) patients were evaluated. Pooled sensitivity and specificity for adenomatous histology was respectively 84.5 % (95 % CI 80.3-88 %) and 83 % (95 % CI 79.6-85.9 %), corresponding to a PPV, NPV, LR + , LR - of 89.5 % (95 % CI 87.1-91.5 %), 75.7 % (95 % CI 70.1-80.7 %), 5 (95 % CI 3.9-6.2 %) and 0.19 (95 % CI 0.14-0.25 %). The AUC was 0.82 (CI 0.76-0.90). Expert endoscopists showed a higher sensitivity than non-experts (90.5 %, [95 % CI 87.6-92.7 %] vs. 75.5 %, [95 % CI 66.5-82.7 %], p < 0.001), and Eastern endoscopists showed a higher sensitivity than Western (85 %, [95 % CI 80.5-88.6 %] vs. 75.8 %, [95 % CI 70.2-80.6 %]). Quality was graded high for 3 studies and low for 3 studies.

Conclusions We show that human accuracy for diagnosis of colorectal neoplasia in the setting of AI studies is suboptimal. Educational interventions should especially target Western endoscopists and could benefit by AI validation settings.

OP049 A NOVEL COMPUTER- AIDED DETECTION (CADE) MODEL FOR NEOPLASIA DETECTION IN INFLAMMATORY BOWEL DISEASE. THE BEGINNING OF THE END OF CHROMOENDOSCOPY?

Authors Abdelrahim M.1, Iwadate Y.2, Maeda N.3, Htet H.1, Siggens K.1, Aslam S.1, Bhandari P.1

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Methods The IBD-dedicated CADE model (ResNet-101 architecture) was trained on 13,054 endoscopic images. Ground truth for detection was expert review and histological confirmation of lesions. Both generic and IBD-dedicated CADE models, with similar threshold value for lesion detection of 0.5, were tested on an independent dataset of 478 prospectively collected endoscopic images and videos obtained from real-time endoscopic assessment of IBD patients and compared using unpaired t test.

Results

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<tr>
<th>Table 1</th>
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<tbody>
<tr>
<td>Metric</td>
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<tr>
<td>Sensitivity</td>
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<tr>
<td>Specificity</td>
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</table>

The existing generic model achieved a sensitivity and specificity for neoplasia detection of 71.7 % and 72.5 %, respectively. The IBD-dedicated model achieved sensitivity and specificity for neoplasia detection of 93.6 % and 68.8 %, respec-
Accessing the gallbladder and bile duct 13:30-14:30

Thursday, 28 April 2022  Club H

**OP050 ENDOSCOPIC ULTRASOUND-GUIDED CHOLECYSTOSTOMY VERSUS PERCUTANEOUS CHOLECYSTOSTOMY IN THE TREATMENT OF ACUTE CHOLECYSTITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS**

**Authors** Candido Hemery M.1, Henrique Boraschi Vieira Ribas P.1, Lira de Oliveira V.1, Yuki Yamoto E.1, Mendonça Proença L.1, Silvio do Monte Junior E.1, Marques Bernardo W.1, Turiani Hourneaux de Moura D.1, Guimarães Hourneaux de Moura E.1

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**DOI** 10.1055/s-0042-1744613

**Aims** Surgical cholecystectomy is the gold standard strategy for treatment of Acute cholecystitis (AC). However, some patients are considered unfit for surgery due to their clinical conditions. As such, we sought to compare endoscopic ultrasound-guided gallbladder drainage (EUSGBD) versus percutaneous gallbladder drainage (PTGBD) for patients with AC who were unfit for surgery. A subgroup analysis was performed only with studies that used lumen apposing metal stents (LAMS) vs PTGBD. Outcomes included technical and clinical success, adverse events (AEs), recurrent cholecystitis, reintervention and readmission.

**Methods** Searches on electronic databases were performed to identify studies comparing EUSGBD versus PTGBD for patients with AC who were unfit for surgery. A subgroup analysis was performed only with studies that used lumen apposing metal stents (LAMS) vs PTGBD. Outcomes included technical and clinical success, adverse events (AEs), recurrent cholecystitis, reintervention and readmission.

**Results** Eleven studies (n = 1155 patients) were included. When compared to PTGBD placement, EUSGBD had comparable results in all the 6 outcomes studied. On the subgroup analysis comparing LAMS vs PTGBD, the endoscopic approach was associated with lower rates of adverse events (RD = −0.33 (95 % CI −0.52 to −0.14; p = 0.0006)), recurrent cholecystitis (~0.05 RD (95 % CI −0.09 to −0.02; p = 0.02) and readmission (~0.36 RD (95 % CI −0.70 to −0.03; p = 0.03). All other outcomes including technical success, clinical success and reintervention were not significantly different between LAMS vs PTGBD.

**Conclusions** EUSGBD has similar results when compared to PTGBD for patients unfit for cholecystectomy. However, EUSGBD with LAMS has less adverse events, recurrent cholecystitis and readmission compared to PTGBD. Thus, EUSGBD with LAMS should be the preferable approach for gallbladder drainage for this group of patients.

**OP051 LONG-TERM PATENCY AND NEED-FOR-REINTERVENTIONS OF EUS-GUIDED CHOLEDOCODUODENOSTOMY WITH ELECTROCAUTERY-ENHANCED LUMEN APPPOSING METAL STENTS: A SINGLE-CENTRE PROSPECTIVE EVALUATION.**

**Authors** Vanella G.1, DellAnna G.1, Archibugi L.1, Petrone M.C.1, Arcidiacomo P.G.1

**Institute** 1 IRCSS San Raffaele Scientific Institute, Pancreatobiliary Endoscopy and Endosonography Division, Pancreas Translational and Clinical Research Center, Milan, Italy

**DOI** 10.1055/s-0042-1744614

**Aims** EUS-guided Choledocho-Duodenostomy (EUS-CD) with electrocautery-enhanced Lumen Apposing Metal Stents (eLAMS) is an established alternative for biliary drainage in patients with distal malignant biliary obstruction (dMBO) in whom conventional retrograde drainage fails. However, long-term prospective evaluations are lacking.

**Methods** All consecutive EUS-CD with eLAMS performed in a tertiary academic centre between 2017-2021 were included. Patients with follow-up (FU) > 30 days were included for prospective analysis of recurrence rate and reinterventions. Dysfunction-Free Survival (DFS) probability was estimated by Kaplan-Meier statistics.

**Results** Forty-seven patients (male 57.4%; median age 71 [64-77], 89.4 % pancreatic cancer) underwent EUS-CD with eLAMS (Hot-Axis, Boston Scientific, Marlborough, US). Mean procedural time was 5 (3-6.2) min. Technical and clinical success were 97.9 % and 93.1 % respectively. Adverse events were registered in 5 patients (10.6 %), including technical/clinical failures. Among 30 prospectively followed patients with > 30 days (median 108 [62-255] days) of FU, 9 (30 %) dysfunction cases (8 stones/food impactions and 1 stent migration) were registered. Median time-to-dysfunction was 255 [156-305] days. In almost all cases (8/9, 88.9 %) endoscopic reinterventions (stone extraction, LAMS exchange, conversion to ERCP or EUS-hepatico-gastrostomy) were successful. 6- and 12-months probability of stent dysfunction was 7.7 % and 39 % respectively at Kaplan-Meier curve, with an estimated median DFS of 364 (95 % CI 255-412) days.

**Conclusions** As EUS-CD spreads, recurrence might be a frequent long-term issue, comparable to the rate reported for retrograde biliary SEMS. Clinicians should be aware that endoscopic revision is effective and safe in almost all cases. (PROTECT Registry, ClinicalTrials.gov NCT014813055).

**OP052 EFFICACY AND SAFETY OF ENDOSCOPIC ULTRASOUND-GUIDED HEPATICO-GASTROSTOMY: A META-REGRESSION ANALYSIS**

**Authors** Binda C.1, Daji E.1-2, Cucchiotti A.2-3, Coluccio C.1, Repici A.4-5, Anderloni A.4, Ercolani G.2-3, Fabbrì C.1

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**DOI** 10.1055/s-0042-1744615

**Aims** EUS-guided hepatico-gastrostomy (EUS-HGS) is valid option of EUS-guided biliary drainage that has been increasingly used in the last ten years. Aims of the study were to provide a systematic review with meta-analysis and meta-regression of features and outcomes after this procedure.

**Methods** MEDLINE, Scopus, Web-of-Science, and Cochrane databases were searched for literature pertinent to EUS-HHS. Meta-analysis of proportions and meta-regression of potential modifiers of the main outcome measures were applied. Main outcome measures were technical success rate, intention-to-treat (ITT) clinical success rate and procedure-related adverse events (AEs).

**Results** Thirty-eight studies including 1335 patients enrolled were included in the meta-analysis. Malignant biliary obstruction was the underlying cause in almost all (99.6 %) cases; the main indications for EUS-HGS were duodenal/papillary invasion (32.6 %), surgical altered anatomy (19.4 %), and hilar stenosis (19.3 %). Pooled technical success of EUS-HGS was 96.8 % (95 % CI: 95, 97.9, heterogeneity: 0 %), the ITT clinical success was 88.3 % (95 % CI: 84.9, 90.9; heterogeneity: 24.9 %) and procedure-related AEs occurred in 11.6 % (95 % CI: 10, 13.4; heterogeneity: 0 %), being cholangitis/sepsis (3 %) and bleeding (2.1 %) the most frequent. Meta-regression showed that technical success rate was modified by centers’ experience (>4/year), rate of patients with duodenal...
invasion. No modifiers of ITT clinical success were identified. The rate of procedure-related AEs was reduced with increasing publication year and the use of dedicated stents.

Conclusions EUS-HGS represents an efficient and safe route for EUS-guided biliary drainage in patients with malignant biliary obstruction. Future studies should address the impact of center experience, patient selection and use of dedicated stents to improve this technique’s performance.

OP053 EFFICACY AND SAFETY OF TRANSMURAL EUS-GUIDED GALLBLADDER DRAINAGE: A META-REGRESSION ANALYSIS

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Aims Transmural EUS-guided gallbladder drainage (EUS-GBD) has been increasingly used in the treatment of gallbladder diseases. Aims of the study were to provide a comprehensive meta-analysis and meta-regression of features and outcomes after this procedure.

Methods MEDLINE, Scopus, Web-of-science and Cochrane databases were searched for literature pertinent to trans-mural EUS-GBD up to May 2021. Random-effect meta-analysis of proportions, and meta-regression of potential modifiers of outcome measures considered were applied. Outcome measures were technical success rate, intention-to-treat (ITT) clinical success and procedure-related adverse events (AEs)

Results Twenty-seven articles were identified including 1004 patients enrolled between February 2009 and February 2020. Acute cholecystitis was present in 98.7 % of cases. Pooled technical success was 98.0 % (95 %C.I.: 96.3, 99.3; heterogeneity: 23.6 %), the ITT clinical success was 95.4 % (95 %C.I.: 92.8, 97.5; heterogeneity: 35.3 %) and procedure-related AEs occurred in 14.8 % (95 %C.I.: 8.8, 21.8; heterogeneity: 82.4 %), being stent’ mal-function/dislodgment the most frequent (3.5 %). Procedural-related mortality was practically nil. Meta-regression showed that center’ experience proxied to 10 cases/year ameliorated the technical success rate (odds ratio [OR]: 2.84; 95 %C.I.: 1.06, 7.59; p = 0.038) and the ITT clinical success (OR: 3.52; 95 %C.I.: 1.33, 9.33; p = 0.011). The use of anti-migrating devices also increased the ITT clinical success (OR: 2.16; 95 %C.I.: 1.07, 4.36; p = 0.031) while reducing prolonged waiting times to cholecystectomy (n = 21; 33 %). Mean time to surgery was 53 days (+ SD: 37 days). The technical success rate was 95 % (n = 60/63). Technical failure exclusively occurred with pancreatic stents. Two dislocations into the pancreatic duct resulted in mild pancreatitis, while one stent could not be released. Clinical success was achieved in 92 % (n = 58/63). Clinical failures despite successful deployment were caused by migration of a biliary stent into the cystic duct (1 case) and persistent cholestasis (1 case). Both required reintervention. Performance was predominantly rated very good (n = 27; 45 %) or good (n = 30; 50 %) by endoscopists.
Table 1

<table>
<thead>
<tr>
<th></th>
<th>Total (n = 63)</th>
<th>Biliary (n = 32)</th>
<th>Pancreatic (n = 31)</th>
</tr>
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<tbody>
<tr>
<td>Technical success</td>
<td>60 (95%)</td>
<td>32 (100%)</td>
<td>28 (90%)</td>
</tr>
<tr>
<td>Clinical success</td>
<td>58 (92%)</td>
<td>30 (94%)</td>
<td>28 (90%)</td>
</tr>
<tr>
<td>Need for reintervention</td>
<td>2 (3%)</td>
<td>2 (6%)</td>
<td>0 (0%)</td>
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</table>

Conclusions
ABPS could become a valuable alternative to traditional stents. For PEP prophylaxis, they help reduce endoscopy load without compromising treatment standards, which is particularly valuable in times of restricted endoscopic resources. Moreover, first insights into feasibility as bridging to cholecystectomy indicate a favorable safety profile.

Colorectal Cancer (CRC) Screening (WEO-ESGE joint session) 15:00–16:00 Thursday, 28 April 2022 South Halls 2 (A&B)

OP056 COLORECTAL CANCER RISK AND ADENOMA DETECTION RATE IN IMMUNOCHEMICAL FAECAL TEST SCREENING PROGRAMS

Authors
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Aims
Colorectal Cancer (CRC) screening programs based on Faecal Immunochemical Test (FIT) represent the standard of care for population-based intervention. Its benefit depends on identification of neoplasia at colonoscopy in FIT + subjects. Thus, its quality as measured by Adenoma Detection Rate (ADR) may affect its outcomes.

Methods
We performed a retrospective cohort study on patients undergoing colonoscopy after FIT + within a CRC-screening program between 2003 and 2017 in Italy. We recovered data on CRC diagnosed and CRC deaths observed between 6 months and 10 years after colonoscopy. Risk of interval-CRC incidence and mortality was assessed according to endoscopists’ ADR quintiles. Estimation of hazard ratio (HR) was adjusted for sex and age.

Results
Overall, we included 68,604 colonoscopies performed by 133 endoscopists. After 295,081 person/years of follow up, no difference in CRC incidence and mortality between endoscopists in the lowest ADR quintile and the highest (aHR for CRC incidence/mortality: 0.80 [95% CI 0.52-1.23]/0.56 [95% CI 0.19-1.62]). Similar findings were observed using advanced ADR quintiles (aHR for CRC incidence/mortality: 1.03 [95% CI 0.67-1.57]/1.49 [95% CI 10.55-4.06]).
Conclusions The lack of association between ADR and CRC incidence and mortality, as well as the low risk of interval CRC due to incomplete resection, supports the incorporation of colonoscopy resources within a programmatic intervention.

Gastrointestinal cancer: from early diagnosis to management of advanced disease

Thursday, 28 April 2022

Club A

OP057V ENDOSCOPIC ULTRASOUND (EUS)-GUIDED REREMEABILIZATION WITH AN ENTERAL STENT THROUGH A GASTROENTERIC LUMEN-APPOSING METAL STENT (LAMS) BURIED BY TUMOR OVERGROWTH

Authors Burguello B.1, Chavarria C.1, Fuentes-Valenzuela E.1, Sánchez-Ocana R.1, De Benito-Sanz M.1, Carbajo-López A.1, de la Serna-Higuera C.1, Pérez-Miranda M.1

Institute 1 Hospital Universitario Río Hortega, Endoscopy Unit, Gastroenterology Department, Valladolid, Spain


EUS guided-gastroenterostomy for unresectable gastric antrum cancer resulted in recurrent gastric outlet obstruction and LAMS dysfunction due to tumor overgrowth 5-months later. A partially-covered duodenal metal stent was placed to clear retained gastric contents and to facilitate enterolysis. The buried LAMS lumen was punctured under EUS from the stomach, a guidewire passed through the needle into the jejunum, and an enteral covered metal stent deployed OTW across the LAMS. The patient was discharged uneventfully with adequate soft oral intake reinitiating chemotherapy.

EUS-guided stent-in-stent repermeabilization of a delayed buried gastroenteric LAMS because of tumor overgrowth is simple, effective and hitherto unreported.

OP058 MULTI-FEATURE FITTING METHOD OUTPERFORMED DEEP LEARNING METHOD ON DIAGNOSING GASTRIC NEOPLASMS

Authors Dong Z.1, Gong D.1, Wang J.1, Wu L.1, Yu H.1

Institute 1 Renmin Hospital of Wuhan University, Department of Gastroenterology, Wuhan, China


Aims Applying the machine-learning-based multi-feature fitting method to diagnose gastric neoplasms under white light endoscopy. Compare the diagnostic performance of the method with the sole deep-learning-based algorithm.

Methods Retrospectively collected 1,000 gastric images from the Digestive Endoscopy Center of Renmin Hospital of Wuhan University from December 2016 to November 2021, including 500 neoplasms and 500 non-neoplasms. 50 images of each category were used for testing. The mucosal color, Paris classification, whitish deposit (presence or not), contour (clear or not), surface structure (regular or not), spontaneous bleeding (presence or not), background mucosa, and the location of the lesion were selected as key features. The key features of each image were labeled by expert endoscopists. Multiple machine learning models were applied for training and testing. In addition, use deep learning framework to train binary classification model to diagnose gastric neoplasms.

Results In the image test set, the KNN (K-Nearest Neighbor) model showed the best performance. The accuracy, sensitivity, and specificity of the KNN were 81%, 84%, and 78%, respectively. The accuracy, sensitivity, and specificity of the sole deep learning algorithm were 78%, 80%, and 76%, respectively. The performance of the machine-learning-based method was slightly better than deep learning.

Conclusions The multi-feature fitting method is a promising way for improving the interpretability of artificial intelligence systems. The potential of this method has been proved through expert-labeled data. In the future, deep-learning-based feature extraction algorithms can be constructed to make the diagnosis system automatic and efficient.

OP059 ENDOSCOPIC ULTRASOUND-GUIDED FINE NEEDLE BIOPSY IN PATIENTS WITH SUSPECTED GASTRIC LINITIS PLASTICA

Authors Assaf A.1, Terris B.1, Palmieri I.J.1, Rouquette A.2, Beuvon F.2, Pellat A.3, Abou Ali E.1, Ginestet C.1, Belle A.3, Hallit R.2, Dohan A.1, Chaussade S.1, Coriat R.1, Barret M.1

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Aims Gastric linitis plastica (GLP) is a diffuse infiltrating type of gastric adenocarcinoma. It is associated with a poor prognosis and a five-year survival of 3-10%. The infiltrating profile of this tumor explains the low yield of the superficial mucosal biopsies. The objective of this study was to investigate the role of endoscopic ultrasound-fine needle biopsy (EUS-FNB) in the diagnosis of GLP.

Methods We performed a retrospective analysis including all patients who had a EUS-FNB, for suspected GLP, at a tertiary referral center, over the last 3 years. A GLP was suspected based on the presence of a gastric wall thickening, or perigastric lymph nodes on abdominal CT, or gastric stenosis, enlarged gastric folds, or pangastric infiltration on esophagogastroduodenoscopy. The primary outcome was the sensitivity of EUS-FNB in patients with suspected GLP.

Results Between January 2017 and December 2020, 34 patients had a EUS-FNB for suspected GLP. Ten patients had a diagnostic of GLP. This diagnosis was obtained by EUS-FNB in 90% (9/10) of the cases. Eight patients had at least one previous esophagogastroduodenoscopy (EGD) with negative mucosal biopsies. Gastric EUS-FNB helped diagnose other serious conditions in 47% (16/34) of cases with inconclusive mucosal biopsies.
OP060  EUS AND PET-CT RESTAGING FOR ESOPHAGEAL AND GASTRIC ADENOCARCINOMA. COMPARED PERFORMANCE AND SURVIVAL PREDICTION

Authors  Redondo-Cerezo E.¹, Martinez-Cara J.G.¹, Jiménez-Rosales R.¹, Valverde-López F.¹, García-García J.², Amezcu-Hernández V.²
Institutes  1 Virgen de las Nieves University Hospital, Gastroenterology, Granada, Spain; 2 Virgen de las Nieves University Hospital, Oncology, Granada, Spain

Aims  Our aim was to study whether EUS and PET-CT restaging can predict survival, and their accuracy when correlated to pathologic results.

Methods  We conducted a retrospective study on all patients who underwent EUS for gastric or esophageal junction adenocarcinoma staging between 2010 and 2021. EUS and PET-CT were performed in all patients, who also received preoperative TNM restaging by both procedures within 21 days prior surgery. Disease free survival and overall survival were studied. EUS response to neoadjuvant therapy was studied.

Results  185 patients were included, 139 males (74.7 %). EUS overall accuracy for the distinction of T1-T2 vs. T3-T4 tumors after neoadjuvant therapy was 66.7 % (95 %CI 50.3 %-77.8 %; kappa 0.17); for N staging, accuracy was 70.8 % (95 % CI: 51.8 %-81.8 %; kappa 0.39). Regarding PET-CT, we found that N positivity showed an accuracy of 60.4 % (CI 95 %: 46.3 %-73 %, kappa 0.16). In Kaplan-Meier analysis positive lymph nodes on yUN, and in restaging PET-CT significantly correlated with DFS. Multivariate COX regression analysis found that N restaging with EUS and PET-CT, and Charlson score were correlated with DFS, yUN and PET-CT positive lymph nodes were predictors for OS. In multivariate Cox regression analysis only Charlson score, T response by EUS and male sex were independent risks factors for OS.

Conclusions  EUS and PET-CT are suboptimal tools, but the most accurate, to determine esophago-gastric cancer stage. Both techniques have the ability to predict survival, considering N staging and response to neoadjuvant therapy evaluated by EUS as the main predictors.

OP061  MAGNIFYING ENDOSCOPY-GUIDED DYE MARKING OF ENDOSCOPIC SUBMUCOSAL DISSECTION SPECIMEN PROVIDES AN ACCURATE METHOD FOR ENDOSCOPIC-TO-PATHOLOGIC EVALUATION OF EARLY GASTRIC CANCER

Authors  Wang J.¹, An P.¹, Zeng Z.¹, Yu H.¹
Institute  1 Renmin Hospital of Wuhan University, Wuhan, China

Aims  There are a lack of precise and comprehensive point-to-point methods to verify the EGC diagnosis in delineating the lateral extent, differentiation and invasion depth between endoscopic and histopathological evaluation. To solve this limitation, we established a dye marking approach on ESD resected specimen guided by magnifying narrow band imaging (ME-NBI) or magnifying blue laser imaging (ME-BLI).

Methods  A total of 30 EGC specimens resected by ESD from 25 patients between January 1, 2020, and January 30, 2021, were enrolled in this study. After resection, endoscopists performed ME-NBI/BLI on pinned specimens to determine the cancerous margins, microvascular vessels (MV) and microstructure (MS) pattern changes. By comparing with pre-ESD ME-NBI/BLI images, malignant or suspected fields were confirmed and different color TMDs were carefully marked on resected specimen.

Results  There were 69 cancerous fields and 51 precancerous fields of all patients of which 68 (98.55 %) and 49(96.08 %, 95 %CI 88.33 % to 99.19 %) fields were fully detected by post-ESD ME-NBI/BLI. 97.50 % of cancerous or precancerous fields detected by pre-ESD ME-NBI/BLI were identified on resected specimen by post-ESD ME-NBI/BLI. 178 out of 180 fields (98.89 %) with characteristic MV and 198 out of 201 fields (98.51 %) with MS patterns were detected in resected specimen by post-ESD ME-NBI/BLI.

Conclusions  We proposed a new endoscopic and pathological co-diagnosis method which provided objective proofs to confirm the correctness of endoscopic diagnosis. TMDs provides indications for pathologists to detect cancerous histopathological proofs. During this feedback and re-study training way, endoscopists are possible to improve their capability in EGC endoscopic evaluation, accumulate important experiences.
Conclusions The risk of major complications was comparable between the push- and pull-PEG technique. Due to frequent tube dislodgement in push-PEG, the pull-PEG seems better for long-term feeding. Post-radiotherapy status increased the risk of complications, which suggest early PEG placement when such treatment is expected.

Table 1

<table>
<thead>
<tr>
<th>Technical success rate (%)</th>
<th>Push-technique (n = 277)</th>
<th>Pull-technique (n = 415)</th>
<th>P-value *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complications – all (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bleeding</td>
<td>5.1%</td>
<td>1.0%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>“Buried bumper”</td>
<td>0.0%</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>Tube dislodgement</td>
<td>5.1%</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>Infection</td>
<td>5.1%</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>Leakage</td>
<td>5.1%</td>
<td>8.1%</td>
<td></td>
</tr>
<tr>
<td>Perforation</td>
<td>0.0%</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>Peritonitis</td>
<td>0.0%</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td>0.0%</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>5.1%</td>
<td>2.0%</td>
<td></td>
</tr>
<tr>
<td>Complications requiring surgical intervention</td>
<td>2.9%</td>
<td>1.5%</td>
<td>0.326</td>
</tr>
</tbody>
</table>

* chi-square Test

Conclusions The risk of major complications was comparable between the push- and pull-PEG technique. Due to frequent tube dislodgement in push-PEG, the pull-PEG seems better for long-term feeding. Post-radiotherapy status increased the risk of complications, which suggest early PEG placement when such treatment is expected.

Efficient diagnostic approaches to the small bowel
Thursday, 28 April 2022
15:00–16:00
Club E

OP063 EARLY CAPSULE ENDOSCOPY AND DEVICE-ASSISTED ENTEROSCOPY IN OVERT BLEEDING: A SYSTEMATIC REVIEW WITH META-ANALYSIS

Authors Estevinho M.M.1, Pinho R.1, Fernandes C.1, Rodrigues A.1, Ponte A.1, Gomes A.C.1, Afeco E.1, Correia J.1, Freitas T.1
Institute 1 Vila Nova de Gaia/Espinho Hospital Center, Gastroenterology, Vila Nova de Gaia, Portugal

Aims The best timing for small bowel capsule endoscopy (SBCE) and device-assisted enteroscopy (DAE) for the management of obscure gastrointestinal bleeding (OGB) remains unknown. This meta-analysis aimed to compare, for the first time, diagnostic and therapeutic yields, detection of active bleeding and vascular lesions, rebleeding, and mortality of “early” versus “non-early” SBCE and DAE.

Methods Three online databases were searched to identify studies comparing “early” versus “non-early” SBCE and DAE. Random-effects meta-analysis was performed; reporting quality was also assessed.

Results From 1974 records, 39 were included (4825 patients). Time intervals for the “early” approach varied, until 14 days in SBCE and 72h in DAE. The pooled diagnostic and therapeutic yields of “early” DAE were superior to those of SBCE (7.97% and 20.89%, respectively, p<0.05). The odds for active bleeding (odds ratio [OR] 5.09, 12 = 53 %), positive diagnosis (OR 3.99, 12 = 45 %), and therapeutic intervention (OR 3.86, 12 = 67 %) were higher in the “early” group for SBCE and DAE (p<0.01). Regarding diagnostic yield, subgroup effects existed for the number of patients in the “early” approach. Our study failed to identify differences when studies were classified according to time intervals for early DAE (12 < 5 %), yet the analysis was limited due to a lack of data availability. Lower rebleeding in “early” SBCE and DAE was observed (OR 0.40, p<0.01, 12 = 0 %).

Conclusions The role of small bowel studies in the early evaluation of OGB is unquestionable, impacting diagnosis, therapeutic, and prognosis. Comparative studies are still needed to identify the best timings.

OP064 CAPSULE ENDOSCOPY IN PATIENTS WITH MECKEL’S DIVERTICULUM: CLINICAL FEATURES AND DIAGNOSTIC FINDINGS – A EUROPEAN MULTICENTRE STUDY

Institutes 1 Agapeion Bethesda Krankenhaus Bergedorf, Hamburg, Germany; 2 Hospital Saint Antoine, Sorbonne University, Paris, France; 3 Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy; 4 Morales Meseguer Hospital, Murcia, Spain; 5 Moscow University Hospital N31, Pirogov Russia National Research Medical University, Moscow, Russian Federation; 6 Allgemeines Krankenhaus Celle, Celle, Germany; 7 Sheffield Teaching Hospitals, Sheffield, United Kingdom; 8 CTO Hospital, Iglesias, Italy; 9 University Hospital City of Science and Health Turin, Turin, Italy; 10 Valduce Hospital, Como, Italy; 11 Skåne University Hospital, Lund University, Malmö, Sweden; 12 Santa Maria delle Croci Hospital, Ravenna, Italy; 13 Amsterdam University Medical Center, location VU, Amsterdam, Netherlands; 14 Georges Pompidou European Hospital, Paris, France; 15 Tallaght University Hospital, Dublin, Ireland; 16 The Royal Infirmary of Edinburgh, Edinburgh, United Kingdom; 17 Fondazione Poliambulanza, Brescia, Italy; 18 Centro Hospitalar de Vila Nova de Gaia, Vila Nova de Gaia, Portugal; 19 Hospital da Senhora da Oliveira, Guimarães, Portugal; 20 Complejo Hospitalario Navarra, Pamplona, Spain; 21 Clínica Universidad de Navarra, Pamplona, Spain; 22 Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico, Milan, Italy

Aims Evaluation of indicative capsule endoscopy (CE) findings in patients with diagnosis of Meckel’s diverticulum (MD) in context of clinical presentation.

Methods Patients with findings suggestive of MD on CE from 2001 until July 2021 were submitted by 22 European Centres. Data was analysed retrospectively.

Results 69 patients with confirmed MD were included. Definite diagnosis of MD following CE was made by surgery (80 %), endoscopy (14 %) or Meckel-Scan (6 %). Mean age was 38.9 (+/- 20.5) years with a male-to-female ratio of 3:1. Gastrointestinal bleeding was the main reason for presentation (59/69 patients, 86 %), mean haemoglobin was 7.7 (+/- 1.8) g/dl with a transfusion rate of 52 %. Typical CE findings were double lumen (71 %), visible entrance of MD (71 %), webs (43 %) and bulges (28 %), showing two or more typical findings in 48/69 patients (70 %). Ulcers in or next to MD were detected in 48 %. Blood was noted in 29 %. A combination of double lumen and visible entrance of MD was evident in 64 %, additionally showing ulcers in 25 patients (36 %). The mean small bowel transit time at which MD was noted was 57 %.

Conclusions Diagnosis of MD may be challenging as MD is rare and no preoperative gold standard investigation exists. Gastrointestinal bleeding, younger age at diagnosis and male gender are clinical factors that may point to the
The sensitivity and specificity between a SEM and bulge are significant (p < 0.05). It had a 37.3% sensitivity and 92% specificity. The Gastroscopic score demonstrated a moderate intra-observer agreement (Kappa 0.64). The sensitivity of detecting a SEM in a large database of SBCE and agreement on the correspondence between the image and the definition was evaluated with the same method in a broadened group of 36 experts. Four atrophic lesions were identified: Mosaicism, Scalloping, Folds reduction and Granular mucosa. The core group succeeded in reaching the agreement on the nomenclature and description of these items (Table 1). The consensus in matching the agreed definitions to the proposed set of images was met for Mosaicism (88.9%–1st round), Scalloping (97.2%–1st round) and Folds Reduction (94.4%–1st round), whereas Granular Mucosa failed to achieve a consensus (75.0%–3rd round). Operator expertise in CD SBCE (i.e. upper quartile in numbers of dedicated CD capsules per year) did not influence the identification of atrophic signs.
Conclusions For the first time ever, a consensus among 36 experts of SBCE on the most common atrophic lesions frequently found in CD and related conditions was set.

**Table 1**

<table>
<thead>
<tr>
<th>Nomenclature and Description</th>
<th>Agreement in core group (total no. 10)</th>
<th>Number of rounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mosaicism: loss of villous structure with the presence of non- ulcerated, orthogonally converging fissures of the small bowel mucosa</td>
<td>9 out of 10 (90 %)</td>
<td>2</td>
</tr>
<tr>
<td>Scalloping: presence of multiple incisions on the edge of the small bowel folds (cogwheel appearance)</td>
<td>10 out of 10 (100 %)</td>
<td>2</td>
</tr>
<tr>
<td>Folds Reduction: flattening of the mucosa with reduction of the folds (&lt; 2 field view) in terms of both height and number</td>
<td>10 out of 10 (100 %)</td>
<td>2</td>
</tr>
<tr>
<td>Granular Mucosa: mucosal surface characterized by multiple small nodules, rough villous architecture and edema of the villi</td>
<td>9 out of 10 (90 %)</td>
<td>3</td>
</tr>
</tbody>
</table>

**OP067V** MOTORISED SPIRAL ENTEROSCOPE GUIDED BILIARY INTERVENTION FOR RELIEF OF OBSTRUCTIVE JAUNDICE IN PATIENT WITH HEPATICOJEJUNOSTOMY

**Authors**  
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**DOI**  
10.1055/s-0042-1744630

A 47-year-old male with hepaticojejunostomy (HJ) done for postcholecystectomy biliary injury 2 years ago, presented with recurrent jaundice, abdominal pain, intermittent fever for three months. Workup showed serum bilirubin 21.7 mg/dl, alkaline phosphatase-347 IU/ml, WBC count-18300/mm3. MRCP showed dilated biliary radicals with HJ site stricture. Motorized spiral enteroscope-guided ERCP was done under general anesthesia. HJ site was identified 50 cm distal to the jejunoojejunostomy site. Cholangiogram showed prominent biliary radicals with multiple filling defects. HJ stricture was dilated with a 6 mm balloon, and black pigmented stones were suctioned out. A 7 Fr pigtail plastic stent was placed. He was discharged later.

**OP068** TAKE A GLIMPSE TO THE SMALL BOWEL: ASSESSING MUCOSAL HEALING IN CELIAC PATIENTS WITH CAPSULE ENDOSCOPY

**Authors**  
Scaramella L.1, Marinoni B.1,2, Rimondi A.1,2, Tontini G.E.1,2, Penagini R.1,2, Sidhu R.1, Sanders D.S.1,2, Leffler D.1,2, Chetcuti Zammit S.1, Vecchi M.1,2, Elii L.1,2  
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**DOI**  
10.1055/s-0042-1744631

**Aims** Capsule endoscopy (CE) is useful in the management of complicated Celiac Disease (CD). However, its use to monitor treated CD is unclear and small bowel mucosal healing (SBMH) in CD is not usually assessed. The aim of this study was to determine the SBMH of CD patients monitored with CE.

**Methods** 37 consecutive CD patients (30 females, mean age 47), undergoing multiple CE (at least 2) were enrolled. CE findings, their localization and extension were analyzed.

**Results** 107 CEs were performed (mean CE per patient 3), follow-up 4 years. Indications were alarming symptoms (42 %), refractory Celiac Disease (RCD) (38 %), non-adherence to GFD (16 %) and persistent anti-transglutaminase antibodies positivity (4 %). 80 % of CEs were positive; atrophy was the most common finding (79 %), mostly represented in duodenum and jejunum (97 %). Successive CEs demonstrated a partial SBMH in 19 % and a complete SBMH in 21 %; 11 % of cases presented a worsening of the previous findings, while a stable picture was detected in 49 % of cases. Notably, in patients non-adherent to GFD, 53 % of CEs were normal and 40 % of follow up CEs showed a SBMH over time. In RCD, 49 % of CEs showed a partial SBMH after immunosuppressive therapy, usually occurring in a distal to proximal fashion. A single case of lymphoma was detected (incidence: 0.006). There were no major complications.

**Conclusions** Our data showed that CE is effective and safe in assessing SBMH during CD monitoring. During follow up, half of the patients presents a partial to complete SBMH.

**OP069** A SIMPLE CLINICAL RISK SCORE CAN PREDICT PROCEDURE-RELATED ADVERSE EVENTS IN ERCPS WITH TRAINEE INVOLVEMENT: RESULTS FROM THE INTERNATIONAL MULTICENTER OBSERVATIONAL TIERS STUDY

**Authors**  
Voiosu T.A.1,2, Bengus A.1, Bronswijk M.3, Voiosu A.2,1, Boskoski I.3, Balanescu P.2, Klarin I.3, Smarandache B.8, Lyutakov I.1, Mateescu R.B.1,2, Wani S.4  
**Institutes**  
1 Colectina Clinical Hospital, Gastroenterology, Bucharest, Romania; 2 Carol Davila Faculty of Medicine, Internal Medicine, Bucharest, Romania; 3 Imelda Hospital, Gastroenterology, Bonheiden, Belgium; 4 Policlinico Agostino Gemelli, Endoscopy, Rome, Italy; 5 Opca Bolnica Zadar, Gastroenterology, Zadar, Croatia; 6 Spitalul Clinic I Cantacuzino, Gastroenterology, Bucharest, Romania; 7 University Hospital Tsaritsa Yoanna – ISUL, Gastroenterology, Sofia, Bulgaria; 8 University of Colorado, Gastroenterology, Denver, United States  
**DOI**  
10.1055/s-0042-1744632

**Aims** There are limited data assessing the impact of trainee involvement on ERCP effectiveness and safety. We aimed to validate a simple risk score (Table 1) that includes patient- and procedure-related variables designed to predict adverse events (AEs) in ERCPs with trainee involvement.
Methods We conducted a prospective, multicenter, observational study in 5 European training centers evaluating the accuracy of our proposed risk score. Data on consecutive ERCP procedures with trainee involvement was collected using standard forms. Patients were followed for 30 days to accurately assess outcomes and AEs. The primary outcome measure was the rate of procedure-related AE which included any of the following: technical failure, post-ERCP pancreatitis, bleeding, perforation, death or prolonged hospital stay.

Results Between September 2019 and September 2021 we enrolled 409 ERCP procedures (72% with native papilla) performed by 11 supervisors and 10 trainees. There were 86 (21.2%) AEs in our cohort, with a 30-day mortality rate of 0.7%. There was a significant difference in AE rates (17.1% vs. 27%, p = 0.0022) and technical success rates (93.1% vs 79.9%, p < 0.001) between high and low-risk procedures. Our score showed a high negative predictive value of 82.9% for AEs. On multivariable analysis, after adjusting for gender, age and indication for ERCP, the risk score was the only predictor of AE, with an OR of 1.38 for each additional risk point (p = 0.006).

Conclusions The TIERS risk model performed well in a real-life setting and could personalize ERCP training by allowing novice endoscopists to start training in selected, low-risk cases, thus increasing patient safety.

OP070 NEWLY TRAINED ENDOSCOPISTS PERFORM HIGH QUALITY SCREENING COLONOSCOPIES AFTER INTENSIVE TRAINING AND EVEN OUTPERFORM EXPERIENCED GASTROENTEROLOGY CONSULTANTS

Authors Schult A.1,2,3, Botteri E.1,4, Hoff G.1,2,5, Holme O.1,6,7, Seip B.1,8, Randel K.R.1, Daarénæs O.3, Owen T.9, Nilsen J.A.3, Nguyen D.H.9, Johansen K.1, de Lange T.10,11,12

Institutes 1 Cancer Registry of Norway, Section for Colorectal Cancer Screening, Oslo, Norway; 2 University of Oslo, Institute of Clinical Medicine, Oslo, Norway; 3 Vestre Viken Hospital Trust Barum, Department of Medicine, Gjøttum, Norway; 4 Cancer Registry of Norway, Department of Research, Oslo, Norway; 5 Telemark Hospital Trust, Department of Research and Development, Skien, Norway; 6 University of Oslo, Institute of Health and Society, Oslo, Norway; 7 Sarfandet Hospital Trust, Department of Medicine, Kristiansand, Norway; 8 Telemark Hospital Trust, Department of Medicine, Skien, Norway; 9 Østfold Hospital Trust, Department of Medicine, Grålund, Norway; 10 Vestre Viken Hospital Trust Barum, Department of Medical Research, Gjøttum, Norway; 11 Sahlgrenska University Hospital, Department of Medicine, Mölndal, Sweden; 12 Sahlgrenska Academy, University of Gothenburg, Department of Molecular and Clinical Medicine, Gothenburg, Sweden


Aims High quality performance is essential for patient outcome. The need for colonooscopies is increasing and new endoscopists need to be trained. Most endoscopy trainees are considered colonoscopy competent after 275 procedures. The aim of this study was to investigate whether trainees then achieve similar quality as gastroenterologist consultants.

Methods This cross-sectional study including screening colonoscopies after positive faecal immunochemical test (FIT) or positive sigmoidoscopy performed in selected, low-risk cases, thus increasing patient safety.

Results Between September 2019 and September 2021 we enrolled 409 ERCP procedures (72% with native papilla) performed by 11 supervisors and 10 trainees. There were 86 (21.2%) AEs in our cohort, with a 30-day mortality rate of 0.7%. There was a significant difference in AE rates (17.1% vs. 27%, p = 0.0022) and technical success rates (93.1% vs 79.9%, p < 0.001) between high and low-risk procedures. Our score showed a high negative predictive value of 82.9% for AEs. On multivariable analysis, after adjusting for gender, age and indication for ERCP, the risk score was the only predictor of AE, with an OR of 1.38 for each additional risk point (p = 0.006).

Conclusions The TIERS risk model performed well in a real-life setting and could personalize ERCP training by allowing novice endoscopists to start training in selected, low-risk cases, thus increasing patient safety.
Conclusions In this monocenter prospective study, AI showed its possible impact on the endoscopists’ quality training. In the future, this could result in better efficacy of screening colonoscopy by reducing the incidence of interval or missed cancers.

OP072 CUMULATIVE SUM (CUSUM) ANALYSIS IN THE ASSESSMENT OF TRAINEE COMPETENCE IN EUS-GUIDED TISSUE SAMPLING OF SOLID TUMORS IN THE UPPER GASTROINTESTINAL TRACT

Authors Razpotnik M.1, Bota S.1, Urak C.1, Essler G.1, Weber-Eibel J.1, Peck-Radosavljevic M.1

Institute 1 Department of Internal Medicine and Gastroenterology (IMuG), Hepatology, Endocrinology, Rheumatology and Nephrology and Emergency Medicine (ZAE) with Centralized Endoscopy Service, Klinikum Klagenfurt am Wörthersee, Klagenfurt am Wörthersee, Austria

Aims Recently, the European Society of Gastrointestinal Endoscopy proposed a minimum of 250 endosonographic (EUS) and 75 fine-needle aspiration/biopsy (FNA/B) procedures to reach adequate competency. We aimed to assess the learning curve of EUS-FNA/B in solid tumors of the upper gastrointestinal tract.

Methods Consecutive patients undergoing FNA/B of solid pancreatic and non-pancreatic tumors were prospectively enrolled in a single-center (on-site cytopathologist was not available). Four trainees participated in the study, two of them reached the recommended threshold for competency (>250 EUS, >75 FNA/Bs) over the study period. The final diagnosis was determined by cytopathology, histopathology, or clinical follow-up. The learning curve was assessed by the cumulative sum analysis.

Results 308 EUS-FNA/Bs of solid tumors (69.2% malignant) were enrolled in 267 patients (median age 68 years, 60.7% males): 227 pancreatic, 34 submucosal, 23 lymph nodes, and 24 other tumors. Overall, 19 samples were insufficient (adequacy 93.8%). The accuracy and sensitivity for detecting malignancy were 217/289 (75.1%) and 169/213 (79.3%). After 70 attempts, a downward deviation due to predominantly positive outcomes was observed, indicating the adequate proficiency of the examiners (Fig. 1). Compared to competent endosonographers, there was a significant difference in the duration of the procedure (33.5 vs. 40.4 min, p < 0.0001), and numerically lower accuracy for tumors < 20 mm (85.7% vs. 33.5%, p = 0.06) and sampling via the trans-duodenal route (86.1% vs. 74.8%, p = 0.23).

Conclusions During the EUS training, at least 70 FNA/B attempts in solid upper gastrointestinal tumors were needed to reach the acceptable level of performance.
Results  We analyzed 108 GPAT-assessments of 12 assessors and demonstrated moderate agreement for the target population (the gastroenterologists and trainee-gastroenterologists) for both GPAT and the SMSA-score. Surgeons and medical students demonstrated fair agreement. (Table 1) Positive feedback was received regarding content and ease of use.

►Fig. 1

Table 1  Mean inter-observer agreement for all videos.

<table>
<thead>
<tr>
<th></th>
<th>SMSA (κ, 95 %C.I.)</th>
<th>GPAT (κ, 95 %C.I.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastroenterologists</td>
<td>0.415 [0.395-0.435]</td>
<td>0.413 [0.384-0.478]</td>
</tr>
<tr>
<td>Trainees</td>
<td>0.518 [0.493-0.543]</td>
<td>0.460 [0.360-0.560]</td>
</tr>
<tr>
<td>All assessors</td>
<td>0.417 [0.327-0.506]</td>
<td>0.400 [0.379-0.422]</td>
</tr>
</tbody>
</table>

Conclusions  This validation demonstrates standardized scoring of colorectal polypectomy video quality and difficulty with moderate inter-observer agreement amongst a varied panel of gastroenterologists and trainee-gastroenterologists with similar agreement found for the broadly used SMSA-score. With further study, GPAT may allow standardized assessment of trainees’ polypectomy competency with feedback on performance, demonstration of improvement over time and a method to accredit endoscopists in different levels of polypectomy.

OP074  A NOVEL ONE-DAY VIRTUAL-LIVE HYBRID TRAINING COURSE IS FEASIBLE AND HAS A POSITIVE IMPACT ON COLONOSCOPY KEY PERFORMANCE INDICATORS OF EXPERIENCED ENDOSCOPY TRAINEES

Authors  Krott L1, Debeils L1, Schoonjans C2, Anderson J3, Valori R1, Desomer L4, Tate D1

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Aims  Colonoscopy is a complex practical skill and highly operator dependent. The consistent attainment of key performance indicators (KPIs) depends primarily upon training. Training can be unstructured and contingent upon the observed practice of a small number of trainers. We sought to demonstrate the feasibility and impact of a one-day virtual-live colonoscopy-training course with remote, experienced trainers.

Methods  6 endoscopy trainees underwent a one-day course involving training by consciously competent colonoscopists who were physically remote. The intervention comprised 5 interactive sessions on colonoscopy theory combined with 6 live sessions, where trainees performed colonoscopy in their local endoscopy unit, receiving real-time instruction and performance enhancing feedback via a tele-conference monitor. KPIs were assessed on trainee-performed colonoscopies for 3 weeks prior and 4 weeks after the training. Qualitative trainee and trainer feedback regarding the course was obtained.

Results  6 experienced colonoscopy trainees (median 26 months prior-training) underwent the intervention. Trainees performed 60 colonoscopies, (33 pre- and 27 post-training), favourable trends in cecal intubation rate and adenoma detection rate were observed, (91 % vs 96 % (P = 0.386), and 39 % vs 63 % (P = 0.069)). A trend to improved endoscopist-reported comfort scores (18 % vs 11 % (P = 0.375)) and nurse-reported comfort scores (22 % vs 8 % (P = 0.189)) was observed. Course participants and trainers alike reported globally favourable qualitative experiences with the expert trainers.

Conclusions  Standardization of colonoscopy training is critical to the consistent attainment of KPIs and improving patient experience. This is the first demonstration of delivering live colonoscopy training remotely; an approach acceptable to trainees and trainers that has a positive impact on KPIs.

OP075  COMPUTER AIDED DIAGNOSIS FOR THE CHARACTERISATION OF DYSPLASIA IN BARRETT’S ESOPHAGUS WITH MAGNIFICATION ENDOSCOPY ON I-SCAN IMAGING

Authors  Hussein M1,2, Lines D3, González-Bueno Puyal J3 1, Bowman N1, Sehgal V2, Toth D3, Eversen M1, Ahmad O1, Kader R1, Esteban J M1, Bischops R3, Banks M2, Haeffner M2, Mountney P1, Stoyanov D1, Lovat L1, Haidry R2 1

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Aims  We aimed to develop a computer aided detection system that can support the diagnosis of Barrett’s oesophagus (BE) dysplasia on magnification endoscopy.
Methods Videos were collected in high-definition magnification white light and virtual chromoendoscopy with i-scan (Pentax Hoya, Japan) imaging in patients with dysplastic/ non-dysplastic BE (NDBE) from 4 centres. We trained a neural network with a Resnet101 architecture to classify frames. The network was tested – on high quality still images, all available frames and on a selected sequence within each video.

Results 57 different patients each with videos of magnification areas of BE (34 dysplasia, 23 NDBE) were included. Performance was evaluated using a leave-one-out cross-validation methodology. 60,174 (39,347 dysplasia, 29,827 NDBE) magnification video frames were used to train the network. The testing set included 49,726 iscan-3-optical enhancement magnification frames. On 350 high quality images the network achieved a sensitivity of 94%, specificity of 86% and Area under the ROC (AUROC) of 96%.

On all 49,726 frames the network achieved a sensitivity of 92%, specificity of 82% and AUROC of 95%.

On a selected sequence of frames per case (Total of 11,471 frames) we used an exponentially weighted moving average of consecutive frames to diagnose dysplasia. The network achieved a sensitivity of 90%, specificity of 82% and AUROC of 94% (Figure 1).

Conclusions Our network can characterise BE dysplasia with high accuracy and speed on high-quality magnification images and sequence of video frames moving it towards real time automated diagnosis.

The mean assessment speed per frame was 0.0135 seconds (SD, + 0.006)

Conclusions Our network can characterise BE dysplasia with high accuracy and speed on high-quality magnification images and sequence of video frames moving it towards real-time automated diagnosis.

OP076 INFLUENCE OF AN ARTIFICIAL INTELLIGENCE (AI) BASED DECISION SUPPORT SYSTEM (DSS) ON THE DIAGNOSTIC PERFORMANCE OF NON-EXPERTS IN BARRETT’S ESOPHAGUS RELATED NEOPLASIA (BERN)

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Aims Barrett’s esophagus related neoplasia (BERN) is difficult to detect and characterize during endoscopy, even for expert endoscopists. We aimed to assess the add-on effect of an Artificial Intelligence (AI) algorithm (Barrett-Ampel) as a decision support system (DSS) for non-expert endoscopists in the evaluation of Barrett’s esophagus (BE) and BERN.

Methods Twelve videos with multimodal imaging white light (WL), narrow-band imaging (NBI), texture and color enhanced imaging (TXI) of histologically confirmed BE and BERN were assessed by expert and non-expert endoscopists. For each video, endoscopists were asked to identify the area of BERN and decide on the biopsy spot. Videos were assessed by the AI algorithm and regions of BERN were highlighted in real-time by a transparent overlay. Finally, endoscopists were shown the AI videos and asked to either confirm or change their initial decision based on the AI support.

Results Barrett-Ampel correctly identified all areas of BERN, irrespective of the imaging modality (WL, NBI, TXI), but misinterpreted two inflammatory lesions (Accuracy ~ 75%). Expert endoscopists had a similar performance (Accuracy ~ 70.8%), while non-experts had an accuracy of 58.3%. When AI was implemented as a DSS, non-expert endoscopists improved their diagnostic accuracy to 75%.

Conclusions AI may have the potential to support non-expert endoscopists in the assessment of videos of BE and BERN. Limitations of this study include the low number of videos used. Randomized clinical trials in a real-life setting should be performed to confirm these results.

OP077 A VISUALIZATION SYSTEM OF ESOPHAGEAL CANCER FEATURES BASED ON DEEP LEARNING

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Aims Esophageal cancer is the sixth leading cause of cancer deaths worldwide. Superficial esophageal squamous cell carcinoma (SSECC) is recommended to be treated with endoscopic treatment when invasion depths are diagnosed as EP-SM1. When the depth of invasion is deeper than SM2, surgery or chemotherapy are recommended. Therefore, identifying the depth of invasion of SSECC is crucial to determine the treatment measure. In this study, we propose a new method for diagnosing the invasion depth of SSECC.

Methods We retrospectively collected 1113 images of ESCC at the Renmin Hospital of Wuhan University and Nanjing Drum Tower Hospital, China. We used deep learning to visualize multiple indicators of the depth of esophageal cancer in the endoscopic image of SESCC, and generated a multi-information composite image of blood vessels, avascular areas (AVAs), and background coloration. We used these multi-information composite images to train this deep learning model. We compare this model with a deep learning model trained on the original image to evaluate its accuracy.

Results The sensitivity of the deep learning model using the original images was 83.67% [95% CI, 73.32%–94.02%], the specificity was 60.00% [95% CI, 51.74%–68.26%], and the accuracy was 66.30% [95% CI, 59.65%–72.95%]. The sensitivity of the deep learning model using the multi-information composite images was 81.63% [95% CI, 70.79%–92.47%], specificity was 70.85% [95% CI, 61.87%–77.39%], and accuracy was 72.83% [95% CI, 66.59%–79.07%].

Conclusions The deep learning model trained using the multi-information composite image can eliminate the influence of noise and can more accurately identify the invasion depth of SESCC.
**OP078**  A CLINICALLY APPLICABLE, GENOMIC ASSAY DETECTS PATHOGENIC ALTERATIONS IN BARRETT’S ESOPHAGUS PATIENTS WITH NON-DYSPLASTIC TISSUE

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**DOI** 10.1055/s-0042-1744641

**Aims** Current risk prediction for malignant progression in Barrett’s Esophagus (BE) is based on the histological diagnosis of dysplasia, which is limited by several factors. Genomic abnormalities precede dysplasia and may allow for objective and early risk stratification. We aimed to identify genomic factors to develop a clinically applicable targeted sequencing panel predicting progression in BE.

**Methods** Progressors (P) to high-grade dysplasia/esophageal adenocarcinoma (EAC) and matched non-progressors (NP) from a nested, community-based cohort were identified. DNA from baseline and subsequent (temporal) non-dysplastic endoscopies was assessed. Sequencing was performed utilizing a targeted capture-based panel designed to detect alterations previously identified in BE/EAC. Mutations, homozygous deletions, and high-level amplifications were filtered for likely pathogenic events.

**Results** 227 BE patients (85 % male) with a median BE length of C3M4 were analyzed. 105 patients progressed after a median of 4 (IQR 3-6) years. 122 NP had a median follow-up of 6 (IQR 5-7) years. Mutations were more frequent in P compared with NP (73 % vs. 55 %, \( p = 0.004 \), Table 1). Baseline analysis identified TP53 in 30 % of P compared with 3 % of NP, \( p = <0.0001 \), and increased to 50 % closer to progression. TP53, KMT2D, ATM, and KDM6A were identified as risk predictors in univariate Cox regression analysis. Copy number alterations (amplifications, arm level loss) increased in P closer to progression.

**Fig. 1**

**Conclusions** We performed a genomic characterization of a large cohort of patients with NDBE, using a clinically applicable platform. Our study identified multiple mutational and copy number aberrations in non-dysplastic biopsies years before progression.

**OP079**  AN OBJECTIVE, FULLY AUTOMATED BARRETT’S RISK PREDICTION ASSAY OUTPERFORMS MOST PATHOLOGISTS IN RISK STRATIFYING BARRETT’S ESOPHAGUS WITH LOW GRADE DYSPLASIA

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**DOI** 10.1055/s-0042-1744642

**Aims** Low-grade dysplasia (LGD) is the best predictor of malignant progression in Barrett’s Esophagus (BE). LGD is over-diagnosed, therefore guidelines recommend expert histological revision. TissueCypher is an objective, automated BE risk prediction assay, previously validated. We aimed to evaluate the predictive value of TissueCypher in BE patients with community-based LGD and to benchmark its performance against an international panel of pathologists.

**Methods** BE patients with community-based LGD derived from the screening cohort of the randomized SURF trial comparing Surveillance vs. RFA for confirmed LGD. All baseline LGD-endoscopy biopsies were assessed by TissueCypher, which classifies patients as low-, intermediate- or high-risk for progression to high-grade dysplasia (HGD) or esophageal adenocarcinoma (EAC), and independently reviewed by 29 pathologists, including 13 BE-experts, from the USA, UK, Germany, Netherlands and Belgium.

**Results** 155 patients (79 % male), age 62 ± 10 years, median BE length C3M4, median follow-up 7 years (IQR 4.4-9.7), mean 3 ± 2 endoscopies, were studied. 25 patients developed HGD/EAC within 5 years (progressors) and 130 did not (non-progressors). The panel downstaged 69 % (mean, range 13–88 %) LGD cases to non-dysplastic, confirmed LGD in 18 % (7–41 %), and classified 13 % (0–74 %) of cases as indefinite-for-dysplasia (IND). TissueCypher downstaged 71 % of the cases to low-risk and scored 29 % as intermediate/high-risk for progression. Sensitivity and specificity for predicting progression is shown in Table 1 and Figure 1.
Conclusions Histological review of community-based LGD showed a high inter-observer variability with a significant number of cases classified as non-informative. TissueCypher provides an objective reassessment of LGD, outperforming the vast majority of pathologists.

OP080 POOLING BARRETT’S ESOPHAGUS (BE) SURVEILLANCE ENDOSCOPES ON DEDICATED BE ENDOSCOPY LISTS IMPROVES ADHERENCE TO THE FOUR-QUADRANT RANDOM (4QR) BIOPSY PROTOCOL

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Aims For BE patients, guidelines recommend endoscopic surveillance with 4QR biopsies every 2 centimeters of BE length. In clinical practice however, adherence to the 4QR biopsy protocol is low. We wished to investigate whether pooling BE endoscopes on dedicated endoscopy lists performed by dedicated endoscopists enhances biopsy protocol adherence and subsequently dysplasia detection rates (DDR).

Methods Data were used from the ACID-study (Netherlands Trial Registry NL8214), a prospective trial on BE surveillance in 18 community hospitals in the Netherlands (data entry since October 2019). BE patients with a history of dysplasia were excluded. Biopsy protocol adherence was defined as 4QR biopsies every 2 centimeters of circumferential BE extent, plus at least 1 biopsy every 2 centimeters of BE tongues. Biopsy protocol adherence and DDR were compared for patients on dedicated and non-dedicated lists.

Results BE surveillance was performed on dedicated endoscopy lists in 3/18 hospitals. 854 patients were included, 204 on dedicated lists and 650 on general endoscopy lists. Mean age (65.2 vs 64.8), male sex (73 % vs 69 %) and median BE length (C1M4 vs C1M3) were comparable between the two groups. Sedation was more often administered during dedicated list endoscopies (p<0.0001). 4QR biopsy protocol adherence was significantly better for endoscopies on dedicated lists compared to non-dedicated lists (83 % vs 63 %, p<0.0001). DDR were not significantly different (8.4 % and 7.1 % respectively, p = 0.66).

Conclusions Pooling BE surveillance endoscopies on dedicated lists is associated with better 4QR biopsy protocol adherence. This however did not translate into a higher DDR.

Post polypectomy and IBD surveillance 16:30-17:30 Thursday, 28 April 2022 Club E

OP081 STOOL-BASED TESTING TO REDUCE THE NUMBER OF UNNECESSARY SURVEILLANCE COLOScopies: THE MOCCAS STUDY


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Aims The yield of colonoscopy surveillance after colorectal cancer screening is limited. To lower patient burden and healthcare costs, there is a need to reduce colonoscopies in which no advanced neoplasia is detected. The MOLecular stool testing for Colorectal Cancer Surveillance (MOCCAS) study evaluated
whether stool-based testing could safely reduce the number of surveillance colonoscopies.

**Methods** This cross-sectional study included patients under colonoscopy surveillance, who performed the multi-target stool DNA test (mt-sDNA, Cologuard) and two fecal immunochemical tests (FITs, OC-Sensor and FOB-Gold) before colonoscopy. Test characteristics were determined for all stool tests, with the validated Adenoma and Serrated pathway to Colorectal Cancer (ASC-A) model, we simulated a colonoscopy surveillance (European post-polypectomy surveillance guideline) strategy and stool-based surveillance strategies that varied in stool-based test and test interval. We chose test cut-offs such that predicted effectiveness (colorectal cancer mortality) of stool-based surveillance equaled effectiveness of colonoscopy surveillance. Outcomes of each strategy included number of colonoscopies and costs.

**Results** 3453 Patients had a valid result for all stool tests and a complete colonoscopy. Colonoscopy surveillance was predicted to result in 1669 lifetime colonoscopies per 1000 individuals under surveillance. At equal effectiveness, fewer colonoscopies were predicted for all stool-based strategies (16-41% reduction). Annual testing with FOB-Gold led to the largest reduction in colonoscopies (41%, cut-off ≥ 32 μg/g). Mt-sDNA surveillance was more costly than colonoscopy surveillance, while FIT-based surveillance saved costs.

**Conclusions** Stool-based surveillance can be as effective as post-polypectomy colonoscopy surveillance, and reduces the number of colonoscopies by up to 41% without increasing healthcare costs.

**OP082** RISK FACTORS FOR METACHRONOUS COLORECTAL CANCER OR ADVANCED ADENOMAS AFTER ENDOSCOPIC RESECTION OF HIGH RISK ADENOMAS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**Aims** To assess which high-risk adenoma (HRA) characteristics are associated with high risk of metachronous colorectal cancer (CRC) or advanced adenomas (AA).

**Methods** We systematically searched Pubmed, EMBASE and Cochrane for cohort, case-control and clinical trials of CRC or AA incidence at surveillance stratified by baseline lesion size, histology and multiplicity. We calculated pooled relative risks (RR) using a random-effects model. Heterogeneity was assessed with the I² statistic.

**Results** Sixty-eight studies were included, with 731,040 patients. CRC incidence per 1,000 person-years was 2.6 (2.1–3.0) for adenomas ≥ 20mm, 2.8 (2.3–3.3) for high-grade dysplasia (HGD), 2.1 (1.8–2.3) for villous component, 1.2 (0.3–1.9) for ≥ 5 adenomas, and 1.4 (0.8–2.3) for ≥ 3 adenomas. Metachronous CRC risk was higher in patients with adenomas ≥ 20mm vs. adenomas 10–20 mm (RR 2.08, 95% CI 1.20–3.61), HGD vs low-grade dysplasia (RR 2.94, 95% CI 1.97–4.39) and villous component vs. tubular adenomas (RR 1.75, 95% CI 1.35–2.24). No differences in metachronous CRC risk were found in patients with ≥ 5 adenomas vs those with 3–4 (RR 1.07, 95% CI 0.44–2.57), nor in patients with ≥ 3 adenomas vs 1–2 (RR 1.60, 95% CI 0.94–2.74). Similar trends were seen for metachronous AA. The absolute risk differences for CRC incidence were low, ranging from 0.05% increase in absolute risk in patients with > 5 adenomas to 0.14% in patients with HGD.

**Conclusions** Metachronous CRC risk is highest in patients with baseline adenomas with size ≥ 20mm, HGD, or villous component. Multiplicity does not seem to be associated with a substantially higher CRC risk.

**OP083** IMPLEMENTATION OF BOTH BSG 2019 AND ESGE 2020 POLYPECTOMY SURVEILLANCE GUIDELINES SAFELY REDUCES THE BURDEN OF SURVEILLANCE IN A SCREENING COHORT – A VIRTUAL MODEL STUDY

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**Aims** To evaluate the impact of BSG 2019 and ESGE 2020 polypectomy surveillance guidelines within a national FIT-based bowel cancer screening (BS) cohort on surveillance activity and detection of pathology by retrospective virtual application.
Methods A retrospective review of 85 colonoscopies performed in 2015-2016 with 5 years prospective follow up in single institution. Index colonoscopies were selected. Incomplete colonoscopies were excluded. Histology of all resected polyps was reviewed. Surveillance intervals were calculated according to BSG 2019 and ESGE 2020 guidelines compared to pre-existing “European guidelines for quality assurance in colorectal cancer screening and diagnosis” (EUQA 2013). Total number of colonoscopies deferred by virtual implementation of BSG 2019 and ESGE 2020 guidelines were calculated. Pathology identified on procedures that would have been deferred was reviewed.

Results Total number of index BS colonoscopies performed in 2015-2016 inclusive was 892. 117 were excluded (23 no caecal intubation, 51 inadequate bowel preparation, 48 incomplete polyp clearance). N = 609 colonoscopies were scheduled following index colonoscopy in 2 surveillance rounds based on EUQA. Overall, volume of surveillance was significantly reduced with retrospective application of BSG 2019 (n = 268, P value < 0.0001); and ESGE 2020 (n = 433 P value < 0.0001). No cancers were detected within the ‘potentially deferred’ procedures who attended for follow up (n = 145). High risk findings were found in 3% (9/145) and 2% (7/145) colonoscopies within the BSG and ESGE cohorts (P value = 0.7980), respectively.

Table 1

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>No. colonoscopies following Index N = 775</th>
<th>No. colonoscopies following 1st surveillance N = 221</th>
<th>No. colonoscopies following 2nd surveillance N = 114</th>
<th>Total number of colonoscopies</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUQA 2013</td>
<td>289</td>
<td>213</td>
<td>107</td>
<td>609</td>
</tr>
<tr>
<td>BSG 2019</td>
<td>189 (P value &lt; 0.0001)</td>
<td>71 (P value &lt; 0.0001)</td>
<td>8 (P value &lt; 0.0001)</td>
<td>268 (P value &lt; 0.0001)</td>
</tr>
<tr>
<td>ESGE 2020</td>
<td>224 (P value &lt; 0.0001)</td>
<td>172 (P value &lt; 0.0001)</td>
<td>37 (P value &lt; 0.0001)</td>
<td>433 (P value &lt; 0.0001)</td>
</tr>
</tbody>
</table>

Conclusions Both BSG 2019 and ESGE 2020 polypectomy guidelines safely reduce the burden of colonoscopy demand with acceptable pathology findings on deferred colonoscopies.

OP084 COMPARISON OF DYE-SPRAYING CHROMOENDOSCOPY AND VIRTUAL CHROMOENDOSCOPY FOR COLONIC DYSPLASIA DETECTION IN LONG-STANDING INFLAMMATORY BOWEL DISEASE

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Aims This study aimed to compare virtual chromoendoscopy (VCE) and dye-spraying chromoendoscopy (DCE) for colonic surveillance in patients with long-standing extensive Inflammatory Bowel Disease (IBD).

Methods Eleven gastroenterologists were given a survey with 20 pairs of pictures of IBD surveillance colonoscopies (10 with nondysplastic lesions, 5 with dysplastic lesions and 5 with no lesions). Each pair contained the same image captured during colonoscopy using VCE and DCE. For each pair, the gastroenterologist assessed the presence/absence of lesion and, when a lesion was identified, assessed the presence/absence of dysplasia and delineated its margins. To compare lesion and dysplasia detection between techniques, the sensitivity, specificity and inter-observer agreement were calculated. The chi-square test was used to assess the accuracy of margins delineation.

Results When assessing lesion detection using VCE, sensitivity (S) and specificity (E) were 0.93 and 0.49 and in, DCE, 0.97 and 0.38, respectively. When assessing dysplasia detection using VCE, S and E were 0.74 and 0.60 and, in DCE, 0.67 and 0.62, respectively. Interobserver agreement analysis revealed that VCE and DCE had a moderate agreement in lesion detection (k = 0.57 and 0.58, respectively); however, for dysplasia detection, VCE had a fair agreement (k = 0.30) and DCE a slight agreement (k = 0.11). The rate of accurately defined margins was similar for both techniques (p = 0.22).

Conclusions Similar lesion and dysplasia detection and margins delineation were achieved with both techniques. However, concerning dysplasia detection, interobserver agreement was slightly better using VCE. Therefore, VCE may constitute a valid alternative to DCE for dysplasia screening in IBD.

OP085 ENDOSECRIPT ESTIMATE OF POLYP SIZE IS DOUBLE THE ACTUAL SIZE OF NEOPLASIA WITHIN A POLYP

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Aims Polyp size is a major determinant for post-colonoscopy surveillance. It is unknown how endoscopist size estimates (ES) compares to actual neoplasia size (NS) within a resected polyp. We aimed to compare ES with NS.

Methods This prospective study included patients undergoing elective colonoscopy with en bloc polypectomy. Each polyp had three size determinations: 1) by the endoscopist, 2) ex-vivo as the polyp specimen size, and 3) as the maximum extent of neoplasia within the polyp (pathologist). The primary outcome was the mean absolute (AD) and relative difference (RD) between ES and NS with 95% confidence interval (CI).

Results 2356 polyps from 1239 patients were included. 97% were adenomas. Median ES was 4 mm (IQR 3-5). ES estimates were smaller than specimen sizes (Table 1), and both were greater than NS. ES was on average twice the NS (RD 1.95 (95% CI 1.86-2.04) with a mean AD of 1.3 mm (95% CI 1.21 – 1.37). In multivariable analysis the difference increased with size (per endoscopist size estimate).
and flat morphology and was lower with trainee involvement. Of all = 10 mm polyps (n = 44 in 44 patients) as assessed by the endoscopist, only 23 % (95 % CI 11.5-37.8) (10 polyps in 10 patients) had an actual neoplasia size of at least 10 mm.

**Table 1**

<table>
<thead>
<tr>
<th>Endoscopist size, mean mm (SD) * (ES)</th>
<th>Specimen size, mean mm (SD) * (SS)</th>
<th>Neoplasia size, mean mm (SD) * (NS)</th>
<th>Mean relative difference (95 % CI) (ES/NS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All polyps (N = 2356)</td>
<td>4.0 (2.1)</td>
<td>5.0 (2.9)</td>
<td>2.7 (1.8)</td>
</tr>
<tr>
<td>Size groups (per endoscopist):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 mm</td>
<td>3.4 (1.1)</td>
<td>4.7 (2.7)</td>
<td>2.4 (1.3)</td>
</tr>
<tr>
<td>6-9 mm</td>
<td>6.8 (0.95)</td>
<td>6.4 (3.1)</td>
<td>4.2 (2.5)</td>
</tr>
<tr>
<td>≥ 10 mm</td>
<td>13 (3.9)</td>
<td>9.0 (4.4)</td>
<td>6.4 (4.4)</td>
</tr>
</tbody>
</table>

Conclusions This is the first study to compare endoscopist polyp size estimates, polyp specimen size, and actual neoplasia size within a polyp. These findings question current practice, call for objective neoplasia size measurements, and may have implications for assignment of patient risk and surveillance interval.

**OP086 Efficacy of Dye-based Chromoendoscopy For Colorectal Neoplasm Detection: A Systematic Review and Metaanalysis**

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**DOI** 10.1055/s-0042-1744649

**Aims** Dye-Based chromoendoscopy (DBC) has shown to be effective in increasing adenoma detection rate (ADR), but the technique is time-consuming and its uptake is limited. The burden of dye spraying the colon has recently been cut down by the possibility to orally administer the dye during bowel preparation. We aimed to assess the effect of DBC in increasing ADR including only randomized controlled trials (RCTs).

**Methods** Four scientific databases were searched for RCTs comparing DBC with standard colonoscopy (SC) in terms of ADR, advanced ADR, and serrated sessile adenoma detection rates as well as the mean number of adenomas per patient (MAP) and per colonoscopy (MAC) and the mean number of sessile serrated adenomas per colonoscopy (MSSAC). We calculated relative risk (RR) and 95 % confidence intervals (CIs), using a random-effect model. The P\(^2\) test was used for quantifying heterogeneity. Quality of the studies was evaluated with GRADE system.

**Results** Overall, 10 RCTs (5,334 patients; 2,650 DBC, 2,684 SC) were included. Indication for colonoscopy was screening/surveillance (3 studies), mixed (5 studies) and high-risk patients (2 studies) Procedure time was increased in the DBC arm (27.6 vs 20.9 mins; p < 0.001). Pooled ADR was higher in the DBC group vs. SC group, (46.2 % [31.4-54.6 %] vs 39.8 % [33.9-46.2 %]; RR = 1.20 [95 C.I. 1.11-1.29], p<0.00001), with low heterogeneity (I\(^2\) = 29 %). This effect was consistent for advanced ADR (RR = 1.21 [95 % CI 1.03-1.42] [2 = 0.0], and for MAP (RR 0.24 [95 % CI, 0.17-0.31]).

**Conclusions** Meta-analysis of RCTs supports that DBC increases key-quality parameters in colonoscopy, promoting its incorporation in clinical practice.

**OP087 Safety Incidents in Endoscopy – A Human Factors Analysis**

**Authors** Ravindran S.1,2,3, Matharoo M.2,3, Healey C.1, Coleman M.1, Ashrani H.1,3, Darzi A.1,3, Thomas-Gibson M.3

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**DOI** 10.1055/s-0042-1744650

**Aims** Outside of procedural adverse events and complications, there is little understanding of wider patient safety incidents (PSIs) in endoscopy. The aim of this study was to quantify endoscopy PSIs and identify their contributory human factors utilising a national data set.

**Methods** Data were extracted from the National Reporting and Learning System (NRLS) which records staff-reported safety incidents in England and Wales. Two independent coders with backgrounds in safety and human factors analysis coded data using a hybrid thematic analysis approach. Pareto analysis was utilised to ascertain the causes of the top 80 % of incidents and the Human Factors Analysis and Classification System (HFACS) was applied to code contributory factors.

**Results** Over the period 2017-2019, 1811 endoscopy-related PSIs were identified, of which 629 were procedural adverse events (pAEs; directly related to procedure), 539 were non-procedural adverse events (nAEs; any incident not directly related to a procedure) and 16 were ‘never’ events. Inter-coder reliability was substantial with a kappa of 0.77. A total of 842 human factors codes were identified from available data across four levels: acts, preconditions, supervision and organisational influences. Decision-based errors were the most common acts (>40 %) across categories. Patient factors were significant contributors in pAEs (74.5 %) and co-ordination, communication (33.5 – 66.7 %) and situational (27.1 %) factors were key contributory factors in nAEs and never events.
Table 1

<table>
<thead>
<tr>
<th>Category</th>
<th>Procedural adverse events</th>
<th>Non-procedural adverse events</th>
<th>Never events</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Distribution</strong></td>
<td>629/1181 (53.3%)</td>
<td>539/1181 (45.6%)</td>
<td>16/1181 (1.4%)</td>
</tr>
<tr>
<td><strong>Categories</strong> (n, %)</td>
<td>Instrumental (312, 49.8%)</td>
<td>Follow up &amp; surveillance (126, 23.4%)</td>
<td>Wrong patient (10, 62.5%)</td>
</tr>
<tr>
<td></td>
<td>Bleeding (94, 15%)</td>
<td>Access &amp; booking (106, 19.7%)</td>
<td>Wrong site (6, 37.5%)</td>
</tr>
<tr>
<td></td>
<td>Cardiovascular (38, 6.2%)</td>
<td>Quality (93, 17.3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pulmonary (27, 4.3%)</td>
<td>Specimens/histopathology (61, 11.3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pancreatitis (25, 4.0%)</td>
<td>Peri-endoscopy care (40, 7.4%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pain (23, 3.7%)</td>
<td>Staffing, environment, infrastructure (28, 5.2%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drug reaction (17, 2.7%)</td>
<td>Patient harm or injury (25, 4.6%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infection (15, 2.4%)</td>
<td>Communication (20, 3.7%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Integument (14, 2.2%)</td>
<td>Equipment (18, 3.3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thromboembolism (13, 2.1%)</td>
<td>Documentation (8, 1.5%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other (48, 7.7%)</td>
<td>Consent (8, 1.5%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decontamination (6, 1.1%)</td>
<td></td>
</tr>
</tbody>
</table>

Reported degree of harm (n, %)

<table>
<thead>
<tr>
<th><strong>Contributory factors (HFACS)</strong></th>
<th>Level 1: Decision-based errors (43.6%)</th>
<th>Level 1: Decision-based errors (51.8%)</th>
<th>Level 1: Decision-based errors (58.3%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Moderate (484, 77.2%)</td>
<td>Moderate (390, 72.4%)</td>
<td>Moderate (14, 87.5%)</td>
</tr>
<tr>
<td></td>
<td>Severe (62, 10.2%)</td>
<td>Severe (131, 24.3%)</td>
<td>Severe (2, 12.5%)</td>
</tr>
<tr>
<td></td>
<td>Death (79, 12.6%)</td>
<td>Death (18, 3.3%)</td>
<td>Death (61, 37.5%)</td>
</tr>
</tbody>
</table>

Conclusions

This is the first overview of national-level endoscopy safety incident data and demonstrates the role human factors play in PSI development. These findings should inform patient safety improvement strategies in endoscopy.

**OP088** PROPOFOL TARGET-CONTROLLED INFUSION (TCI) BY GASTROENTEROLOGISTS FOR ENDOSCOPIC PROCEDURES: AN ANALYSIS OF PATIENT SAFETY AND SATISFACTION

Authors

Mandarino F.V., Fant L., Barchi A., Biamonte P., Azzolini F., Esposito D., Viale E., Massimino L., Danese S.

Institute

1 San Raffaele Scientific Institute, Milan, Italy

DOI

10.1055/s-0042-1744651

Aims

The aim of the study is to assess the complication rate and patient satisfaction after gastrointestinal endoscopic procedures (excluding surgical endoscopy), with sedation regimen of propofol target-controlled infusion (TCI) administered by gastroenterologist.

Methods

Patients with American Society Anesthesiologists (ASA) Physical Status Classification System < 3, who consecutively underwent endoscopic procedures at San Raffaele Hospital (Milan, Italy) between May 2019 and October 2021, were enrolled. The sedation protocol included propofol TCI alone or plus fentanyl 1mcg/kg (during colonoscopies). Endoscopic and clinical data were collected retrospectively from a prospectively recorded database.

Results

A total of 11628 endoscopic procedures with gastroenterologist administered propofol TCI sedation were analyzed, including 5898 esophagogastrroduodenoscopies (EGD), 5717 colonoscopies, and 13 sigmoidoscopies. Median age of patients was 59.5 (49.3-70.7) years and 48% was male. Sedation-related adverse events occurred in 162 patients (1.4%), including arterial hypotension (29 cases), desaturation (81 cases), disinherition (17 cases), bradyarrhythmia (23 cases), two or more listed above (12 cases), all were transient.

A weak positive correlation was found between cardiovascular diseases and anticoagulant therapy with two or more adverse events (respectively, Pearson correlation R2 = 0.03 and 0.05).

In a post-procedure questionnaire, 8551 patients (85%) gave a satisfaction score for sedation of more than 8 (score 0-9) and 9952 patients (99%) stated that they would repeat the endoscopic procedure with the same mode of sedation.

Conclusions

TCI of propofol managed by gastroenterologist (plus opioids) may provide a safe and comfortable sedation for endoscopic procedures, under adequate cardiorespiratory monitoring.
OP089 SAFETY OF ENDOSCOPIC ULTRASOUND-GUIDED TISSUE ACQUISITION ON DIRECT ORAL ANTICOAGULANTS: A RANDOMIZED PRECLINICAL TRIAL

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Institutes Mayo Clinic, Division of Gastroenterology and Hepatology, Rochester, United States; 2 Hospital Universitario Ramon y Cajal, IRYCIS, Universidad de Alcalá, Gastroenterology and Hepatology Department, Madrid, Spain; 3 Mayo Clinic, Division of Anatomic Pathology, Rochester, United States


Aims To assess the safety and outcome of endoscopic ultrasound-guided fine needle biopsy (EUS-FNB) without interruption of a direct oral anticoagulant in a porcine model.

Methods Twenty pigs were randomized (1:1) to oral apixaban or placebo and underwent EUS-FNB of the pancreas (22G needle). Apixaban (0.3mg/Kg/12h) was administered 3 days before EUS-FNB and continued for 72 hours to end of survival. Specimens were submitted for rapid on-site evaluation (ROSE) and histology. Hemoglobin levels were checked pre EUS-FNB and 72 hours later. Apixaban concentration was analyzed before EUS-FNB. Study endpoints were 1. Occurrence of clinically significant bleeding (CSB, a composite outcome of drop in hemoglobin level ≥2g/dl and evidence of intraprocedural or postprocedural bleeding) 2. Diagnostic specimens defined by ROSE or histological confirmation of pancreas tissue and 3. Quality of specimens graded by the degree of blood contamination. Endosonographers and pathologists were blinded to treatment allocation.

Results CSB occurred in 1 animal in the apixaban group (p = 1). Minor bleeding occurred in 10 animals, 6 from the apixaban group (5 intraprocedural bleeding; 10 hematoma at necropsy). Median drop in hemoglobin was 0.85g/dl (IQR: 0.3–1.35), without difference between groups (p = 0.78). All specimens were considered diagnostic by ROSE or histology criteria. There was no difference in specimen quality for ROSE (p = 0.21). In histological specimens, blood accounted for 74% (IQR: 45.6–96.3) of the core area in the apixaban group and 97.6% (IQR: 92.6–98.6%) in placebo group, p = 0.05.

Conclusions EUS-FNB of the pancreas with apixaban did not significantly increase CSB, nor did it limit a diagnostic cytopathological evaluation.

OP090 OUTCOMES OF ERCP WITH NON-ANESTHESIOLOGIST ADMINISTERED PROPOFOL (NAAP)

Authors Albuquerque Miranda M.1,2, Pijon Comas E.1,2, Zaragoza Velasco N.1, Figa Franchesc M.1, Vargas Garcia A.1,2, Miguel Salas I.1, Miñana Calafat J.M.2, Torres Vicente G.1, René Espinet J.M.1, González-Huix Lladó F.3,1, Working Group on D SEE, and Sedation PCR

Institutes 1 Clínica Girona, Girona, Spain; 2 Hospital de Palamós, Palamós, Spain; 3 Hospital Universitari Arnau de Vilanova, Lleida, Spain


Aims To determine the equivalence of bile duct cannulation rate (BDCR) and management of pathology (MP), including clearance of common bile duct (CBD) and stent placement in case of biliary obstruction (spBO), in ERCP performed with NAAP and monitored-anesthesia care (MAC).

Methods Single-blind non-randomized controlled equivalence trial of patients admitted for ERCP on bicerenter study (Hospital Universitari Arnau de Vilanova and Clínica Girona). Patients: Consecutive adult patients (>18 years old) admitted for ERCP. Intervention: Blindly assignation of patients by programming office according to the day in which the patient was admitted (Monday:NAAP, Wednesday-Tuesday:MAC). ESGE performance measures (PM) for ERCP were recorded. Main outcome measures: BDCR and MP (CBD and spBO) in standard programmed ERCP performed with NAAP.

Results We included 938 patients (age: 72.59 ± 0.53, 50.7% women); 352 (37.5%) in NAAP and 586 (62.5%) in MAC. Three experts endoscopists (>1000ERCP) performed ERCPs. Adequate indication and antibiotic prophylaxis were 94.6% and 91.7% respectively; ERCP complexity grade 1/4:51.5%, total complications (TC):9.2% ; post-ERCP pancreatitis (PEP):2.5%; and exitus related to procedure:0.3%, CR:94.7%; appropriate MP:92.8%; CBD:91.3% and spBO:92.8%. Per-protocol analysis showed CR of 93.8% in NAAP and 95.4% in MAC, difference (ΔCR): 1.6%, 95% CI: -0.35 to 0.97. PM was 92.6% and 93% in NAAP vs MAC respectively (ΔPM: 0.05%, 95% CI: -0.45 to 0.56). No differences in CBD and spBO. PEP rate was 2.0% in NAAP and 2.7% in MAC (ΔPEP:1.38; 95% CI: -0.57 to 1.22). TC rate in ERCP were also equivalent.

Conclusions ESGE performance measures in standard ERCP performed with NAAP are equivalent to those performed with MAC. Similarly, there is no difference in complication rate.
Conclusions  Endoscopy staff in the UK and Ireland have generally positive safety attitudes. There were significant differences between staff subtypes. There is evidence to support the validity and reliability of Endo-SAQ.

Table 1

<table>
<thead>
<tr>
<th>Confirmatory factor analysis</th>
<th>Value</th>
<th>Accepted threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparative Fit Index (CFI)</td>
<td>0.972</td>
<td>&gt; 0.95</td>
</tr>
<tr>
<td>Tucker-Lewis-Index (TLI)</td>
<td>0.97</td>
<td>&gt; 0.95</td>
</tr>
<tr>
<td>Standardised Root Mean Square Residual (SRMR)</td>
<td>0.045</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>Root Mean Square Error of Approximation (RMSEA)</td>
<td>0.049</td>
<td>&lt; 0.05</td>
</tr>
</tbody>
</table>

Role of EUS in detecting malignancy in pancreatic cystic lesions

Friday, 29 April 2022 Club A

OP093  INCIDENCE OF PANCREATIC CANCER WITHIN PANCREATIC CYSTIC NEOPLASM: 6-YEAR RESULTS FROM A NATIONWIDE PATHOLOGY DATABASE

Authors  van Hooft J.1, van Santvoort H.5, Groot Koerkamp B.6, Bruno M.7, Besselink M.2, van Hooft J.1.

Institutes  1 Amsterdam UMC, University of Amsterdam, Department of Gastroenterology and Hepatology, Amsterdam, Netherlands; 2 Amsterdam UMC, University of Amsterdam, Department of Surgery, Amsterdam, Netherlands; 3 Amsterdam UMC, University of Amsterdam, Department of Pathology, Amsterdam, Netherlands; 4 University Medical Centre Utrecht, Utrecht University, Department of Pathology, Utrecht, Netherlands; 5 University Medical Centre Utrecht, Utrecht University, Department of Surgery, Utrecht, Netherlands; 6 Erasmus MC Cancer Institute, University Medical Center Rotterdam, Department of Surgery, Rotterdam, Netherlands; 7 Erasmus MC Cancer Institute, University Medical Center Rotterdam, Department of Gastroenterology and Hepatology, Rotterdam, Netherlands; 8 Leiden University Medical Center, Department of Gastroenterology and Hepatology, Leiden, Netherlands


Aims  Pancreatic cystic neoplasms (PCN) are known precursor lesions for pancreatic ductal adenocarcinoma (PDAC) and thereby pose an opportunity for early detection and curative treatment. The aim of this national retrospective study was to investigate the incidence of PDAC arising from PCN in the Netherlands.

Methods  Clinical information from all patients who underwent pancreatic resection for PDAC between 2013 – 2018 was retrieved from the Netherlands Cancer Registry (NCR) and matched with the corresponding pathology reports from the automated national pathology database (PALGA). Primary outcome was the incidence of PDAC arising from PCN. Secondary outcomes were the overall survival between primary PDAC and PDAC arising from PCN and the incidence PDAC as opposed to PCN.

Results  After assessing 2405 patients for eligibility, 1991 patients were included (Fig. 1). Primary PDAC was diagnosed in 1819 patients (91 %), of which 50 patients (3 %) had PDAC as opposed to PCN. Invasive PCN was diagnosed in 176 patients (9 %), the majority being invasive IPMN (n = 168, 8 % of total cohort). Overall survival was significantly higher in patients with PDAC arising from PCN (53 % vs. 24 %, p < 0.000) after a median follow-up period of 534 days (IQR 318-894) from diagnosis. This difference remained significant when adjusted for TNM-stage in Cox regression analysis (Hazard ratio 0.530 [95 %CI 0.422-0.665]).

OP092  COMPARING NUMBER AND RELEVANCE OF FALSE ACTIVATIONS BETWEEN TWO ARTIFICIAL INTELLIGENCE CADe SYSTEMS: THE NOISE STUDY

Authors  Spadaccini M.1, Alfaro L.1, Da Rio L.1, Maselli R.1, Carrara S.1, Galtieri P.A.3, Pellegrata G.1, Fugazza A.2, Koledh G.2, Emmanouil2, Anderloni A.1, Mori Y.4, Wallace M.B.5, Sharma P.6, Repici A.1, Hassan C.1

Institutes  1 Humanitas Research Hospital, Department of Gastroenterology and Hepatology, Rozzano, Italy; 2 Hospital Selayang, Department of Gastroenterology and Hepatology, Selangor, Malaysia; 3 Queen Elizabeth Hospital, Department of Gastroenterology and Hepatology, Sabah, Malaysia; 4 Digestive Disease Center, Showa University Northern Yokohama Hospital, Yokohama, Japan; 5 Sheikh Shakhbout Medical City, Endoscopy Unit, Abu Dhabi, United Arab Emirates; 6 Kansas City VA Medical Center, Gastroenterology and Hepatology, Kansas City, United States


Aims  Artificial Intelligence (AI) has been shown to be effective in polyp detection, and multiple computer-aided detection (CADe) systems have been developed. False positive (FP) activation emerged as a possible way to benchmark different brands of approved CADe systems.

Methods  We compared two different consecutive video libraries (40 video per arm) collected at Humanitas Research Hospital with two different CADe system brands (CADe A-CAD-EYE and CADe B-GIGENIUS-). For each video, the number of CADe false activations, the cause and the time spent by the endoscopist to examine the area erroneously highlighted were reported. The FP activations were classified according to the previously developed classification of false positives (the NOISE classification) according to their cause and relevance.

Results  A total of 1021 FP activations were registered across the 40 videos of the Group A (25.5 ± 12.2 FPs per colonoscopy). A comparable number of FPs were identified in the Group B (n = 1028, mean: 25.7 ± 13.2 FPs per colonoscopy) (p = 0.53). Among them, 22.9 ± 9.9% (Group A) and 22.1 ± 10.0% (Group B) were due to artifacts from bowel wall. Conversely, 2.6 ± 1.9% (2.2%) and 3.5 ± 2.1% (14%) were caused by bowel content (p = 0.45). Within the Group A each false activation required 0.2 ± 0.9 seconds, with 1.6 ± 1.0 (6.3%) FPs requiring additional time for endoscopic assessment. Comparable results were reported within the Group B with 0.2 ± 0.8 seconds spent per false activation and 1.8 ± 1.2 FPs per colonoscopy requiring additional inspection.

Conclusions  The use of a standardized nomenclature permitted to provide comparable results with either of the recently approved CADe systems.

Fig. 1
Multiple pancreatic cysts with pancreatic atrophy and no clear masses. EUS-FNA detected high serum level of Carbohydrate antigen 19-9 (5148 U/ml) without alteration of serum amylase and lipase; on the other hand, abdominal CT showed multiple pancreatic cysts with pancreatic atrophy and no clear masses. EUS-FNA and EUS-FNB were performed obtaining the diagnosis of adenocarcinoma cells in a context of necrotic tissue. The final diagnosis was IPMN degenerated with a vascular infiltration. Due to vascular infiltration, a chemotherapy regimen was started.

**OP095** **ESOPHAGOGASTRODUODENAL FINDINGS IN PATIENTS WITH INTRADUCTAL PAPILLARY MUCINOUS NEOPLASMS (IPMNs)**

**Authors** Ben Ami Shor D.1, 2, Zelnik Yovel D.1, 2, Khader M.1, Tzadok R.1, 2, Scapa E.1, 2, Shnell M.1, 2, Bar Yishay L.1, 2, Ziv Baran T.1, 2, Shiboleit O.1, 2

**Institutes** 1 Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel; 2 Department of Gastroenterology, Tel-Aviv Sourasky Medical Center, Tel Aviv, Israel; 3 The Kamila Gonczarowski Institute of Gastroenterology and Liver Diseases, Shamir (Assaf Harofeh) Medical Center, Zerifin, Israel

**Aims** The association between intraductal papillary mucinous neoplasms (IPMNs) and extra-pancreatic malignancies is controversial. Our aim was to compare the esophagogastroduodenal findings among patients with IPMN and patients with no known IPMN.

**Methods** A cross-sectional study comparing esophagogastroduodenoscopy (EGD) findings of 340 patients with IPMN, to 340 age- and gender-matched participants who underwent an EGD for similar clinical indications from 2004 through 2021. For each patient, only first EGD at the study period was included and newly diagnosed esophageal cancer, Barrett’s esophagus, gastric and duodenal neuroendocrine tumors (NETs), gastrointestinal stromal tumors (GISTs), gastric adenomas and ampullary tumors were assessed. Incidence of new gastric cancer among IPMN patients was also compared with data from the Israel National Cancer Registry (INCR) (updated to 2018).

**Results** In the IPMN group, new gastric cancer was diagnosed in 4/340 (1.2%), and esophageal cancer in 1/340 (0.3%). The incidence of gastric and esophageal cancer was similar in matched individuals, 5/340 (1.5%) and 0/340, respectively, (p=0.999). Also, the overall incidence of Barrett’s esophagus, gastric and duodenal NETs, GISTs, gastric adenomas and ampullary tumors was not significantly different between patients with IPMN and matched individuals. However, the incidence of gastric cancer was higher in patients with IPMN than expected using the INCR data (Standardized incidence ratio 31.39, p < 0.001, CI 8.38-78.76).

**Conclusions** Patients with IPMN have a significantly higher incidence of gastric cancer than the average risk population in Israel. However, the incidence of esophagogastroduodenal findings is similar among patients with IPMN and patients who undergo EGD for different clinical indications.

**OP096** **SURGICALLY RESECTED INTRADUCTAL PAPILLARY MUCINOUS NEOPLASM: IS LONG-TERM SURVEILLANCE WARRANTED?**

**Authors** AbouSaleh M.1, Hossain M.S.1, Said S.A.-d.1, Perlmutter B.1, AlKhayyat M.1, Martin C.1, Simons-Linares R.1, McMichael J.1, Simon R.1, Joyce D.1, Augustin T.1, Chahal P.1, Walsh M.1

**Institute** 1 Cleveland Clinic Foundation, Cleveland, United States

**Aims** Natural history of remnant pancreas after resection for IPMNs is not well described. Uniform postoperative surveillance recommendations do not exist. In this study, we aim to evaluate the rates and predictors of IPMN progression within the remnant pancreas.

**Methods** A database of patients who underwent surgical resection for IPMNs was reviewed. Patients with pathology-proven IPMN without malignancy and a minimum one-year postoperative imaging follow-up were included. Total pancreaticoduodenectomy patients were excluded. Progression was defined as new main pancreatic duct (MPD) dilation, development of new IPMN, increased size of pre-existing IPMN on follow-up imaging, or evidence of pancreatic malignancy. Univariate analysis and Kaplan-Meier estimate curve tests were conducted.

**Results** 166 patients met the inclusion criteria with a median follow-up of 3.8 years. 33.1% patients developed progression. 17%, 9%, 18%, 24% and 11%...
patients developed progression at 1–2, 2–3, 3–5, 5–10, and >10 year intervals, respectively. On baseline pathology of resected IPMNs, 51.2% had MPD involvement while 45.8% were side-branch (SB)-IPMNs. Patients with MPD involvement on baseline pathology showed significantly earlier progression than SB-IPMNs with a median duration of 4.9 vs. 12.3 years, respectively, P < 0.012. Among patients who developed progression, 10.9% patients underwent repeat surgical resection and 27.3% underwent endoscopic intervention. 5.5%, 5.5%, and 3.6% patients had evidence of low, high-grade dysplasia, and invasive pancreatic cancer, respectively.

**Table 1** Univariate logistic regression analysis for predictors of malignancy.

<table>
<thead>
<tr>
<th>B</th>
<th>p value</th>
<th>Odds ratio (OR)</th>
<th>95% C.I. for OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt; 55 ys</td>
<td>3.401</td>
<td>0.000</td>
<td>30</td>
</tr>
<tr>
<td>Size of cyst ≤ 55mm</td>
<td>1.992</td>
<td>0.007</td>
<td>7.333</td>
</tr>
<tr>
<td>C.F IL1β &gt; 200 pg/ml</td>
<td>3.520</td>
<td>0.001</td>
<td>33.800</td>
</tr>
<tr>
<td>Mucin stain</td>
<td>3.386</td>
<td>0.002</td>
<td>29.545</td>
</tr>
</tbody>
</table>

Conclusions Following resection for IPMNs, there was high rate of radiological evidence of progression with need for repeat endoscopic or surgical intervention. MPD-involvement on baseline pathology was associated with earlier progression. These findings support long-term surveillance after resection.

**OP097 PANCREATIC CYST FLUID INTERLEUKIN-1 BETA (IL-1B) LEVEL IN PREDICTING THE RISK OF MALIGNANCY IN Pancreatic CYSTS.**

**Authors** Abdallah T.1, Shalaby S.1, Salem A.1, Yousef T.1, Saleh S.1, Okasha H.1, Zaghloul M.2, El-Nady M.2

**Institutes** 1 Ain Shams University, Internal Medicine, Cairo, Egypt; 2 Cairo University, Internal Medicine, Cairo, Egypt; 3 Kafrelsheikh University, Hepatology, Gastroenterology and Infectious Diseases, Kafrelsheikh, Egypt DOI 10.1055/s-0042-1744660

**Aims** The of the current study was to determine the predictive value of cystic fluid IL-1β in detection of malignant pancreatic cystic lesions and its correlation to the different degrees of dysplasia.

**Methods** Between January 2018 and November 2020, 50 patients underwent EUS-guided fine needle aspiration (EUS-FNA) for cyst fluid analysis at the Endoscopy unit. Patients were pre-endoscopically consented. Correlative studies on cyst fluid carcinoembryonic antigen (CEA), cyst fluid interleukin 1 beta (IL-1 β) and fine needle aspiration (FNA) cytology were performed on a subset of these patients. Demographics and clinical data including preendoscopic serum CA 19-9 were supplemented through electronic medical record review. Pancreatic fluid levels of IL-1β were measured using commercially available ELISA kits (Cat DLB-50; R&D, Minneapolis, Minn and RPNZ222; GE Healthcare Life Sciences, Pittsburgh, Penn.). The threshold value of IL-1β (>50 pg/ml) was 31.343

**Results** Cyst fluid IL-1 β can differentiate between benign and malignant cysts at cutoff value > 200 pg/ml; the sensitivity and specificity were 84.00 % and 56.00 % respectively and also can differentiate between mucinous and non-mucinous pancreatic cysts at cutoff value > 150 pg/ml; the sensitivity and specificity were 83.33 % and 53.78 % respectively, but cannot differentiate between degrees of dysplasia of IPMN.

**Conclusions** Pancreatic cyst fluid IL-1β can be a promising biochemical cyst fluid marker to differentiate between mucinous and non-mucinous cysts as well as benign and malignant cysts. Further larger studies are needed to validate its role.

**OP098 TRAINING MODULES FOR CONFOCAL ENDOMICROSCOPY (CLE) PATTERNS OF Pancreatic CYSTIC LESIONS (PCLS) RESULTS IN SUSTAINED LEARNING AND ACCURACY IN DIAGNOSIS FOR EARLY CAREER ADVANCED ENDOSCOPISTS.**

**Authors** Machicado J.D.1, Napoleon B.2, Akshintala V.3, Bazarbachi A.4, Bilal M.5, Corral J.6, Dugsom M.6, Han S.7, Hussain F.1, Johnson A.M.4, Jovani M.8, Kolb J.4, Leonor P.3, Lee P.1, Mulki R.1, Shah H.8, Singh H.4, Sanchez Luna S.7, Shah S.18, Singla A.1, Varghese E.1, Tiellermann T.7, Dalmacy D.1, Fry M.7, Krishna S.3.

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**Aims** Demonstrate the impact of audiovisual training modules of CLE patterns for early EUS users and assess the durability of training.

**Methods** Twenty-one gastroenterologists naïve to CLE with varying EUS experience watched a 20-minute audiovisual teaching module outlying the CLE imaging criteria to characterize PCLs. PHASE 1: Participants then watched 80 edited videos with representative EUS-CLE patterns of PCLs with confirmed histopathology. Feedback about cyst histology was provided. Observers were then randomized 1:1 for a refresher feedback session (to review 20 different CLE videos at week 4). PHASE 2: Eight weeks after the initial session, all observers assessed the same 80 videos presented in a different sequence.

**Results** PHASE 1: Progressing through blocks of 20 videos, observers improved their diagnostic accuracy, interobserver agreement (IOA), and degree of confidence to differentiate mucinous from non-mucinous PCLs and specific cyst types (p < 0.001, Table 1). Observers distinguished mucinous from non-mucinous PCLs with high sensitivity (86%), specificity (82%), accuracy (85%), confidence (76%), and IOA (k = 0.67).

**PHASE 2:** After 8 weeks, the sensitivity (90%), IOA (89%), high confidence (83%), and IOA (k = 0.75) to classify mucinous vs. non-mucinous PCLs significantly improved (p < 0.05), suggesting durability of initial training (Figure 1). The diagnostic accuracy of EUS-CLE for all PCL types was > 80% (IPMN: 84%, MCN: 82%, pseudocyst: 96%, SCA: 86%, NET/SPN: 84%). The addition of a refresher feedback session did not modify the results.
Conclusions A teaching intervention for early career endoscopists in CLE image interpretation for classifying PCLs results in durable learning and highly accurate diagnoses of PCLs.

Interval and post colonoscopy colorectal cancer

Friday, 29 April 2022

OP099 ADENOMA DETECTION RATE AND RISK OF INTERVAL POST-COLONOSCOPY COLORECTAL CANCER IN FIT-BASED SCREENING

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Aims Adenoma detection rate (ADR) is an essential quality indicator for endoscopists performing colonoscopies for colorectal cancer screening as it is associated with post-colonoscopy colorectal cancers (PCCRCs). Currently, data on ADRs of endoscopists performing colonoscopies in fecal immunochemical testing (FIT)-based screening, the most common screening method, is scarce. Also, the association between ADR and PCCRC has not been demonstrated in this setting. Patients and endoscopists may benefit from an ADR target that minimizes PCCRC risk and represent adequate colonoscopy performance after positive FIT.

Methods We assessed quality indicator performance and PCCRC incidence for colonoscopies in FIT-positive screeners. PCCRCs were classified as interval, a cancer detected before recommended surveillance, or non-interval. The association between ADR and interval PCCRC was evaluated with a multivariable Cox regression model. PCCRC incidence was determined for different ADRs.

Results In total, 383 endoscopists performed 233,945 colonoscopies with a median ADR of 65%. We identified 211 interval PCCRCs. Each 1% increase in ADR was associated with a 7% decrease in interval PCCRC risk (HR 0.93, p < 0.001). For every 1,000 patients undergoing colonoscopy, the expected number of interval PCCRC diagnoses after 5 years was approximately 1.5 for endoscopists with ADR of 70%, compared to two, three or four for endoscopists with ADRs of 65%, 60% and 55%, respectively.

Conclusions ADR is inversely associated with the risk of interval PCCRC in FIT-positive colonoscopies. Endoscopists performing colonoscopy in FIT-based screening should aim for markedly higher ADRs compared to primary colonoscopy. Based on our results we recommend an ADR target of 60%.

OP100 SENSITIVITY OF Faecal IMMUNOCHEMICAL TEST FOR COLORECTAL CANCER SCREENING AND RISK FACTORS FOR INTERVAL CANCER: A FRENCH POPULATION-BASED STUDY

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Aims Faecal immunochemical test (FIT) is intended to detect pre-symptomatic lesions to reduce the incidence and mortality of colorectal cancer (CRC). The objectives of this study were to determine the FIT sensitivity, whether diagnostic circumstances had an impact on treatment and survival, and risk factors for interval cancer (IC).

Methods This population-based study evaluated the 2016-2017 CRC screening campaign in Finistère, France. CRCs were classified according to diagnostic circumstances: screen-detected CRC (SD-CRC), CRC with delayed diagnosis, FIT-IC, Post-colonoscopy IC, CRC in non-responders and CRC in the excluded population.

Results The FIT sensitivity for invasive CRC was 80.5%. The median time from FIT to diagnostic colonoscopy was 72 days for SD-CRCs, 389 days for FIT-ICs, and 862 days for post-colonoscopy ICs. SD-CRCs were more frequently treated with endoscopic and surgical resection alone (60.9%), as opposed to FIT-ICs, which were frequently treated with surgery combined with chemotherapy or radiation therapy (70%). Disease-specific 3-year survival was higher in the SD-CRC group (94%) than in the FIT-IC group (73%), non-responders (67%) and excluded subjects (78%; p < 0.0001). In multivariate analysis, stage III (OR: 2.78) and IV (OR: 3.79), proximal (OR: 5.00) and rectal locations (OR: 7.73) were risk factors of being diagnosed with FIT-IC rather than SD-CRC. The FIT positivity threshold maximizing the sum of sensitivity and specificity was found to be 17 μg/g, with 14 additional invasive CRCs diagnosed.

Conclusions Our study confirms the good sensitivity of FIT. SD-CRCs are primarily early-stage CRCs accessible to less invasive curative treatments and therefore with better survival.
OP101 PROXIMAL SERRATED POLYP DETECTION RATE AND INTERVAL POST-COLONOSCOPY COLORECTAL CANCER RISK

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Aims The adenoma detection rate (ADR) is a well-established colonoscopy quality indicator and inversely associated with interval post-colonoscopy colorectal cancer (PCCRC) incidence. However, interval PCCRCs frequently develop from serrated polyps. The proximal serrated polype detection rate (PSDR) was advocated as quality indicator, but its association with interval PCCRCs has not yet been studied.

Methods Using colonoscopy data from the Dutch fecal immunochemical test (FIT) based CRC screening program between 2014 and 2020, we evaluated the association between endoscopists’ individual PSDR and their patients’ risk of interval PCCRC with a multilevel Cox proportional-hazard regression analysis. We additionally evaluated the risk of interval PCCRC for endoscopists with a PSDR and ADR above the median versus endoscopists with either one or both parameters below the median.

Results In total, 277,555 colonoscopies performed by 441 endoscopists were included. Median PSDR was 11.9 % (range, 1-29 %). Median ADR was 66.3 % (range, 43.0-83.2 %). During a median follow-up of 33 months, 305 interval PCCRCs were detected. Each percent higher PSDR of endoscopists was associated with a 7 % lower risk of interval PCCRC (HR 0.93, CI95 % 0.90-0.95). Compared to endoscopists with a PSDR > 11.9 % and ADR > 66.3 %, the hazard ratio of interval PCCRC for endoscopists with a low-PSDR/high ADR was 1.79 (CI95 %, 1.22-2.63), for high-PSDR/low ADR 1.97 (1.19-3.24) and for low-PSDR/low ADR 2.55 (1.89-3.45).

Conclusions The PSDR of an endoscopist is inversely associated with the incidence of interval PCCRC. Implementation of PSDR monitoring, in addition to ADR monitoring, can contribute to optimize cancer prevention in FIT-based screening programs.

OP102 PROXIMAL SERRATED POLYP DETECTION RATE IS ASSOCIATED WITH REDUCED RISK FOR CRC MORTALITY IN SCREENING PATIENTS

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Aims Patients with serrated polyps (SP) are at increased risk for colorectal cancer (CRC), however, evidence for a dedicated SP detection rate is lacking. The aim of this study was to investigate whether screening patients with low PSDR endoscopists are at increased risk for CRC mortality.

Methods We conducted a retrospective analysis of prospectively built database within of Austrian quality assurance program for screening colonoscopy. A corresponding PSDR cutoff for an ADR of 25 % was calculated by univariable linear regression. Whether PSDR was associated with CRC mortality in patients with high-risk adenomas or SP was assessed by Cox proportional hazards model.

Results 203,373 screening colonoscopies and 7632 follow-up examinations were analyzed. ADR and PSDR showed a moderate correlation (r = 0.49, p < 0.001), and the corresponding PSDR value for an ADR performance standard of ≥ 25 % was ≥ 3.68 %. High-risk screening patients were at increased risk for CRC mortality when their respective endoscopist had a PSDR < 3.68 % (HR 3.97, CI 1.04-15.06), but not when screening was performed by an endoscopist with a PSDR ≥ 3.68 % (HR 0.72, CI 0.07-6.92).

Conclusions PSDR is associated with reduced risk for CRC death in screening patients with high-risk adenomas and SP. We support the inclusion of the PSDR with a minimum standard of 3.68 % as a quality parameter to ensure optimal surveillance of SP.

OP103 POST-POLYPECTOMY COLORECTAL CANCER RISK IN IMMUNOCHEMICAL FAECAL TEST SCREENING PROGRAMS

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Aims Post-Faecal Immunochromatographic Test (FIT) colonoscopy represents a highly disease-enriched setting, where nearly 1/3 of all examinations harbour an advanced adenoma. Post-polypectomy endoscopic surveillance is one of the major drivers of endoscopic services work overload but its efficacy in terms of CRC risk reduction can be limited. Aim of our study was to investigate the post-polypectomy CRC incidence and mortality risk in a well-defined screening population of FIT + subjects after resection of low- (LRA) or high-risk adenomas (HRA).

Methods We retrieved data from a cohort of patients undergoing post-polypectomy surveillance after colorectal polypectomy within a FIT-based CRC screening program in Italy between 2002 and 2017. Main outcomes were CRC incidence and mortality risks according to type of adenoma (LRA/HRA) removed at colonoscopy. The absolute risk was calculated as a number of events (CRCs, CRC deaths) per 100,000 person-years of follow-up.

Results Overall, we included 87,673 colonoscopies (133 endoscopists). Of these, 42,978 (49 %) were negative, 21,744 (24.8 %) had a LRA and 22,951 (26.2 %) a HRA. After median follow-up of 4.4 years, a total of 325 CRCs were diagnosed, and 49 CRC related deaths were observed. CRC incidence risk was increased for patients with LRs (HR 1.42, 95 %CI 1.07 – 1.88) and HRAs (HR
1.68, 95% CI 1.29-2.18), compared to those with a negative colonoscopy. No difference in terms of CRC mortality risk were found between negative colonoscopy, LRAs and HRAs.

Fig. 1

Conclusions CRC incidence risk is higher in patients with baseline adenomas at colonoscopy, supporting follow-up in the context of an organised screening program.

OP104 INTERVAL CANCER IN DANISH COLORECTAL CANCER SCREENING PARTICIPANTS WITH FAECAL IMMUNOCHEMICAL TEST VALUES BELOW 10 MICROGRAM OF HAEMOGLOBIN PER GRAM OF FAECES

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Aims A faecal immunochemical test (FIT) value threshold of 20 microgram haemoglobin per gram (µg hb/g) faeces has been set in the Danish colorectal cancer (CRC) screening program (90% have FIT-values <10). We aimed to investigate the incidence rate (IR) of interval CRC and other cancers in this population stratified by FIT-value.

Methods Using the Danish National registries, we included CRC screening participants from the Region of Southern Denmark invited in 2014-16 with a FIT-value <10 µg/g faeces. Screening in Denmark is biennial and follow-up was therefore limited to two years. Individuals with previous CRC or other cancer diagnosis, respectively, were excluded, resulting in different sample sizes. IRs were estimated per 1000 person-years (PY). Hazard ratios (HR) were estimated using multivariate cox proportional hazards regression models adjusted for age and sex. Confidence intervals for CRC and death rates were estimated using the Exact Test for a Poisson distribution.

Results In total, 175 CRCs were registered in 188,255 individuals. 7,517 other cancers were registered in 170,835 individuals. CRC IR was 0.47 per 1000PY (range 0.40-1.47). Other cancer IR was 22.15 per 1000PY (range 21.78-28.24). The HR for CRC was 2.4 for 4.6-9 µg/g faeces, and 3.0 for 7-9.9 µg/g faeces, compared to <4 µg/g faeces. Substantial increases in risk was not observed for other cancers (Table 1).

Table 1 Incidence rates and hazard ratios.

<table>
<thead>
<tr>
<th>FIT-value</th>
<th>CRC Incidence rate per 1000 PY (95% CI), PY</th>
<th>Other cancer Incidence rate per 1000 PY (95% CI), PY</th>
<th>Other cancer HR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;4 µg/g faeces</td>
<td>0.40 (0.33-0.47), PY = 343,592</td>
<td>Reference, n = 172,589 (91.7%)</td>
<td>21.78 (21.27-22.31), PY = 311,736</td>
</tr>
<tr>
<td>4-6.9 µg/g faeces</td>
<td>1.13 (0.72-1.66), PY = 22,199</td>
<td>2.44 (1.59-3.74), n = 11,203 (5.9%)</td>
<td>25.59 (23.41-27.92), PY = 19,773</td>
</tr>
<tr>
<td>7-9.9 µg/g faeces</td>
<td>1.47 (0.78-2.52), PY = 8,838</td>
<td>3.03 (1.72-5.36), n = 4,463 (2.4%)</td>
<td>28.24 (24.63-32.23), PY = 7,790</td>
</tr>
<tr>
<td>Total</td>
<td>0.47 (0.40-0.54), PY = 374,630</td>
<td>-</td>
<td>22.15 (21.66-22.66), PY = 339,299</td>
</tr>
</tbody>
</table>

Conclusions The risk of interval cancer in biennial CRC screening is significantly increased even at modest increases in FIT-values. Screening programs may benefit from differentiated screening intervals defined by the FIT-value.

OP105V NOVEL TECHNIQUE TO INSERT LARGE CALIBER SELF-EXPANDING METAL STENTS DURING BALLOON-OVERTUBE ENTEROSCOPY (BAE)-ASSISTED ERCP

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When performing device-assisted-ERCP the ability to place large caliber plastic stents or fully-covered self-expanding-metal stents (SEMS) is limited because the working channel of the scope is too narrow and will not allow passage of these devices and utensils. Our technique consists of utilizing the overtube as a “giant working channel”, inserting a wire into the bile ducts, removing the scope, and then inserting the self-expanding-metal-stent over-the-wire, through the overtube under fluoroscopic control. In addition, the overtube may be left in situ to allow for insertion of standard or ultrasmall scopes to perform direct cholangioscopy, laser lithotripsy and stone removal.
OP106  EUS-DIRECTED TRANSGASTRIC ERCP (EDGE) VERSUS LAPAROSCOPY-ASSISTED ERCP (LA-ERCPR) IN PATIENTS WITH ROUX-EN-Y GASTRIC BYPASS (RYGB): A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aims  Performing ERCP is challenging in patients with RYGB and it is not well defined which is the best approach. Although EDGE is arising as a new technique with promising and similar outcomes compared to LA-ERCPR, better quality of evidence about this question is still required.

Methods  We searched on electronic databases (PUBMED and EMBASE) through November 2021 to identify studies comparing EDGE and LA-ERCPR techniques. Outcomes measured were technical success, adverse and severe adverse events, length of hospitalization and procedure time. Patient baseline characteristics and descriptive data related to EDGE procedure were also extracted.

Results  A total of 5 studies, all retrospective cohorts were included, representing a sample of 268 patients. There was no significant difference between the groups in technical success, adverse events and severe adverse events. The length of hospitalization was shorter in the EDGE group (MD = -1.2 days; 95% CI – 1.86 to – 0.53; I² = 47%; p = 0.0004) as well as the procedure time (MD = 59.62 min: 95% CI – 113.62 to – 83.63: I² = 16%; p = 0.000004) as well as the procedure time. Descriptive data in the EDGE group demonstrated fistula closure in most patients (85%), usually through some endoscopic method, and no average weight gain was reported (n = 90).

Conclusions  EDGE and LA-ERCPR are both adequate techniques to perform ERCP in RYGB patients, with comparable high success rates and low adverse events. However, EDGE is a less invasive technique with shorter length of hospitalization and procedure time and may be a valid option in some cases.

OP108V  ENDOSCOPIC ULTRASOUND-GUIDED ANTEGRADE STENTING IN BENIGN BILIARY DISEASE WITH ALTERED ANATOMY (ROUX-EN-Y) AND EXTREME AGE PATIENT

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A 91 yo man with history of Roux-en-Y reconstruction was admitted due to acute cholangitis. Cholangio-MRI: choledocholithiasis with intra and extrahepatic bile duct dilatation. A linear echoendoscope was used to perform an endoscopic biliary drainage. Firstly, EUS-guided biliary accesses by transgastric puncture of left intrahepatic biliary radical, confirmed by serum-illistillation and bile-aspiration. Secondly, advancement of a guidewire anterograde until reach enteral loop, through the papilla y by fluoroscopy-guidance. Finally, a transgastro-hepatic ostomy using a 6 Fr cystotome, and antegrade papilloplasty using a CRE balloon allowed a EUS-guided antegrade stenting (Biliary fully-covered metal stent, 60 x 10mm) without incidences.

OP109V  ENDOSCOPIC ULTRASOUND (EUS)-GUIDED GASTROENTEROSTOMY WITH LUMEN APPOSING METAL STENT (LAMS) AS RESCUE THERAPY FOR THE MANAGEMENT OF GASTRIC OUTLET OBSTRUCTION (GOO) AFTER DUODENAL STENT FAILURE

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A 79-year-old woman with pancreatic neoplasia, previously treated with uncovered duodenal self-expandable metal (SEMS) for GOO, was admitted for jaundice and vomit. Endoscopy confirmed SEMS’s occlusion for neoplastic ingrowth. EUS-guided choledoco-duodenostomy was performed using a 10x10mm electrocutter-enhanced LAMS (Hot-Axios, Boston Scientific). Novel SEMS was deployed through the previous duodenal stent with partial expansion of distal flange due to extended neoplastic infiltration. Considering the stent-in-stent technique failure, EUS-guided gastroenterostomy with a 20x10mm Hot-Axios was performed in a a “free-hand” fashion. A 0.035-inch guidewire was preventively passed through the LAMS delivery system and advanced into the jejunum to preserve the route.

OP107V  RENDEZVOUS DOUBLE-BALLOON-ENTEROSCOPY ERCP AND PERCUTANEOUS TRANSPHASIC CHOLANGIODRAINAGE (PTCD) IN THE SETTING OF ROUX-EN-Y HEPATICOJEJUNOSTOMY AFTER LIVER TRANSPLANT

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We performed a double-balloon-enteroscopy ERCP in a patient with Roux-en-Y hepaticojejunostomy after liver transplant. The patient had undergone prior percutaneous transhepatic cholangiodrainage (PTCD) due to cholestasis and a tight hepaticojejunostomy stenosis. During DBE we reached the hepaticojejunostomy endoscopically, but due to massive looping of the enteroscope it was impossible to advance any therapeutic devices through the scope. Thus, we changed to combined DBE-ERCPR with PTCD rendezvous. First, we dilated the hepaticojejunostomy percutaneously using endoscopic controlled-radi-al-expansion balloons, and then placed the large caliber (10 Fr) endoscopic plastic stents through-the-skin under endoscopic control, with excellent results.

OP108V  ENDOSCOPIC ULTRASOUND-GUIDED ANTEGRADE STENTING IN BENIGN BILIARY DISEASE WITH ALTERED ANATOMY (ROUX-EN-Y) AND EXTREME AGE PATIENT

Authors  Luna-Rodriguez D.1, García-Sumalla A.1, Velázquez-Rodríguez J.1, Consiglieri C.1, Maistera S.1, Gornals J.1

Institute 1 Bellvitge University Hospital, Interventional Endoscopy Unit, Barcelona, Spain

A 91 yo man with history of Roux-en-Y reconstruction was admitted due to acute cholangitis. Cholangio-MRI: choledocholithiasis with intra and extrahepatic bile duct dilatation. A linear echoendoscope was used to perform an endoscopic biliary drainage. Firstly, EUS-guided biliary accesses by transgastric puncture of left intrahepatic biliary radical, confirmed by serum-illistillation and bile-aspiration. Secondly, advancement of a guidewire anterograde until reach enteral loop, through the papilla y by fluoroscopy-guidance. Finally, a transgastro-hepatic ostomy using a 6 Fr cystotome, and antegrade papilloplasty using a CRE balloon allowed a EUS-guided antegrade stenting (Biliary fully-covered metal stent, 60 x 10mm) without incidences.

OP109V  ENDOSCOPIC ULTRASOUND (EUS)-GUIDED GASTROENTEROSTOMY WITH LUMEN APPOSING METAL STENT (LAMS) AS RESCUE THERAPY FOR THE MANAGEMENT OF GASTRIC OUTLET OBSTRUCTION (GOO) AFTER DUODENAL STENT FAILURE

Authors  Di Mitri R.1, Amata M.1, Moccia F.1, Conte E.1, Bonaccorso A.1, Scivo B.1, Call A.1, Sciameca D.1

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A 79-year-old woman with pancreatic neoplasia, previously treated with uncovered duodenal self-expandable metal (SEMS) for GOO, was admitted for jaundice and vomit. Endoscopy confirmed SEMS’s occlusion for neoplastic ingrowth. EUS-guided choledoco-duodenostomy was performed using a 10x10mm electrocutter-enhanced LAMS (Hot-Axios, Boston Scientific). Novel SEMS was deployed through the previous duodenal stent with partial expansion of distal flange due to extended neoplastic infiltration. Considering the stent-in-stent technique failure, EUS-guided gastroenterostomy with a 20x10mm Hot-Axios was performed in a a “free-hand” fashion. A 0.035-inch guidewire was preventively passed through the LAMS delivery system and advanced into the jejunum to preserve the route.

OP110V  ERCP IN A PATIENT WITH ROUX-EN-Y HEPATOJEJUNOSTOMY STENOSIS SUCCESSFULLY MANAGED BY ARGON PLASMA COAGULATION AND DILATION

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A 46-year-old woman with Roux-en-Y hepaticojejunostomy (Hj) after iatrogenic bile duct injury during a cholecystectomy 10 years ago, was admitted for cholangitis. An MRCP showed a stenosis of the Hj anastomosis. An ERCPR was carried out using an SB enteroscope with a distal cap. Then, we could see a very narrow right-Hj stenosis that just allowed a 0.035 guidewire to pass through, which prevented the passage of the dilator catheter. Thus, we applied APC in the stenosis which allowed to pass through the dilation catheter. We dilated the stenosis with a 8 mm balloon catheter. No complications happened.
OP111  PRELIMINARY RESULTS OF A PROSPECTIVE, SINGLE CENTER, RANDOMIZED CONTROLLED STUDY ON FEASIBILITY, SAFETY AND EFFICACY OF THREE DIFFERENT TECHNIQUES OF ENDOSCOPIC GASTROPLASTY

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Aims Endoscopic Gastroplasty (EG) is an endoscopic therapy focusing on gastric body remodeling to treat mostly I and II grade of obese patients. Our study aimed to assess feasibility, safety, and efficacy of endoscopic sleeve gastroplasty (ESG), endoluminal vertical gastroplasty (EVG), and distal primary obesity surgery endoluminal (D-POSE).

Methods This was a prospective, single center, randomized controlled study (ClinicalTrials.gov NCT04854317) of patients who underwent EG through ESG or EVG or D-POSE for the treatment of obesity. Outcomes included technical success rate, serious adverse event rate, and efficacy of these three procedures at inducing weight loss, improving obesity-related comorbidities and quality of life.

Results Between July 2020 and April 2021, 54 obese (body mass index 37.1 ± 2.9 kg/m²) patients (mean age, 45 ± 10 years; sex, female 51 (94.4%); baseline comorbidities in Table 1) underwent EG through ESG or EVG or D-POSE (Figure 1, respectively). The technical success rate was 100%. The stomach was shortened by 11.4 ± 4.2 cm, representing a 35.5% reduction. The serious adverse event rate was 0%. At 6 months, patients experienced 15.5% ± 5.1% total body weight loss. Fifty-three (98.1%) patients achieved at least 5% total body weight loss, and 46 patients (85.2%) achieved at least 25% excess weight loss. Fatty liver disease, hypertension, hyperlipidemia, diabetes, and obstructive sleep apnea improved after the procedure. Also the quality of life measured by BAROS test improved at 6-month follow-up (p < 0.01).

Conclusions Endoscopic Gastroplasty through ESG, EVG and D-POSE, focusing on gastric body reduction are technically feasible, safe and effective for treatment of obese patients.

OP112  ENDOSCOPIC SLEEVE GASTROPLASTY USING THE ENDOMINA DEVICE AS A BRIDGE-TO SURGERY PROCEDURE FOR SUPEROBESE PATIENTS

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Aims Endoscopic sleeve gastroplasty (ESG) is a minimally invasive bariatric procedure that reduces the gastric volume and delays gastric emptying to facilitate weight loss. The effectiveness and safety of ESG in weight loss has mainly been described for patients with class I and II obesity, but not routinely for superobese and high-risk patients. This study aims to evaluate the safety, feasibility, and efficacy of ESG for superobese and high-risk patients as a bridge to surgery (BTS) procedure.

Methods Eligible patients characterized as high-risk for bariatric surgery due to high BMI [50-80 kg/m²] or severe comorbidities, undergoing ESG as a BTS procedure in a two-step concept (first endoscopic, second surgical) between August 2018 and October 2021 at the University Hospital Augsburg were enrolled prospectively. ESG was performed using Endomina (Endo Tools Therapeutics, Gosselies, Belgium). Primary outcomes included technical success, procedure time, absolute weight loss (ΔWeight, kg), change in body mass index (ΔBMI, kg/m²), total body weight loss (TBWL, %) and excess weight loss (EWL, %) at 6 months and adverse events.

Results In total, 8 patients (mean age: 46.4 ± 10.3 years; 75% female) underwent ESG as a BTS procedure. ESG was successfully performed for all patients. Mean procedure time was 128.3 ± 22 min. Baseline weight and BMI were 196.3 ± 51.4 kg and 67.0 ± 9.0 kg/m². Follow-up data were obtained from 4 patients. At 6 months Δweight, ΔBMI, ΔTBWL, ΔEWL were 30.0 ± 2.9 kg, 10.0 ± 1.8 kg/m², 17.6 ± 3.9 %, 30.1 ± 9.3 %, respectively. No adverse events were observed.

Conclusions ESG can be used as a safe and effective BTS procedure for superobese and high-risk patients.

OP113  WEIGHT-LOSS ENDOSCOPY TRIAL (WET): A MULTI-CENTER, RANDOMIZED, CONTROLLED TRIAL COMPARING WEIGHT LOSS IN ENDOSCOPICALLY IMPLANTED DUODENAL-JEJUNAL BYPASS LINERS VS. INTRAGASTRIC BALLOONS VS. A SHAM PROCEDURE

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Aims Obesity is a global problem leading to reduced life expectancy and obesity-related co-morbidities. Surgical interventions are effective but accompanied by risk of serious complications. Endoscopic procedures comprise the intragastric-balloon (IB) and the duodenal-jejunal-bypass-liner (DJBL). A randomized comparison was not undertaken so far.
Methods We performed a prospective, patient-and-assessor-blinded, controlled trial at comparing weight loss in IB vs. DJBL procedure (2:2:1 ratio). Patients with a BMI > 35 kg/m² or > 30 with obesity-related comorbidities were included. The IB was removed after 6 months and the DJBL after 12 months. Main objective was successful weight loss (> 10% from baseline) 12 months after explantation. Secondary outcomes were changes in co-morbidities, quality of life and complications.

Results 33 patients were randomized. Recruitment has to be stopped suddenly in November 2017 after the DJBL device lost its CE mark in Europe. 11 patients received DJBL, 15 IB and 7 were allocated to sham group. Blinding was feasible in all patients. Weight decreased from baseline until explantation (DJBL: 129.4 ± 28.3 kg to 107.4 ± 16.7 kg; IB: 118.3 ± 22.8 kg to 107.4 ± 25.7 kg; sham: 134.6 ± 18.0 kg to 131.2 ± 14.3 kg at 12 months) but patients regained weight almost to baseline level 12 months after explantation. Only one patient in IB group reached the primary endpoint. Gastrointestinal disorders were most common adverse events in all groups.

Conclusions Endoscopic bariatric procedures failed to achieve effective weight loss 12 month after explantation of the devices. Results of this trial need to be interpreted with caution due to its preliminary termination.

OP114 OUTCOMES OF ENDOSCOPIC SLEEVE GASTROPLASTY IN THE ELDER POPULATION

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Aims With the aging of the population and the epidemic spread of obesity, the frequency of elder individuals with obesity is steadily growing. In this case series, we evaluate for the first time the short and medium-term outcomes of endoscopic sleeve gastoplasty (ESG) in obese patients aged 65 years and older.

Methods A retrospective analysis was done on a prospective database reporting patients that underwent ESG between November 2017 and April 2021; patients aged 65 years and older were included in our analysis. The percentage of excess weight loss (%EWL) and total body weight loss (%TBWL), the Bariatric Analysis and Reporting Outcome System (BAROS) questionnaire and the presence of comorbidities were recorded during follow-up.

Results Of 263 obese patients treated with ESG, 16 were 65 of age and older (7 male) with a mean age of 67.6 (range 65-75) and a mean BMI of 41.1 ± 5.8 kg/m2. Changes in weight loss parameters and in BAROS score are reported in Table 1. Five of the nine patients with arterial hypertension and two of the three diabetic patients reduced or removed their medications, and two of the five patients with obstructive sleep apnea were able to discontinue therapy with CPAP (continuous positive pressure equipment) within 12 months following ESG. No adverse events were recorded.

Table 1 Changes in weight-related parameters and in the BAROS score in patients over 65 years following ESG

<table>
<thead>
<tr>
<th>Variable</th>
<th>1 month n = 16</th>
<th>3 months n = 16</th>
<th>6 months n = 13</th>
<th>12 months n = 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of TBWL (% mean ± SD)</td>
<td>9.5 ± 3.0</td>
<td>14.0 ± 3.0</td>
<td>15.5 ± 4.0</td>
<td>16.8 ± 7.9</td>
</tr>
<tr>
<td>Percentage of EWL (% mean ± SD)</td>
<td>26.5 ± 14.0</td>
<td>37.8 ± 11.0</td>
<td>41.7 ± 14.0</td>
<td>41.3 ± 17.7</td>
</tr>
<tr>
<td>BAROS score mean ± SD</td>
<td>2.5 ± 1.5</td>
<td>3 ± 1.2</td>
<td>3.5 ± 1.4</td>
<td>3.3 ± 1.4</td>
</tr>
</tbody>
</table>

Conclusions According to our experience, ESG is a promising therapeutic option for elder individuals with obesity that are unable to lose weight with non-invasive methods, and who refuse or are deemed not suitable for bariatric surgery because of elevated age and comorbidities.

OP115 DUODENAL-JEJUNAL BYPASS LINER AS ENDOSCOPIC BARIATRIC AND METABOLIC THERAPY (EBMT) FOR OBESITY AND TYPE 2 DIABETES: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS


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Aims The duodenal-jejunal bypass liner (DJBL), an endoscopic bariatric and metabolic therapy (EBMT) has emerged as an alternative treatment with good results in glycemic control and weight loss. This systematic review of randomized clinical trials (RCTs) aimed to analyze the effect of DJBL on glycemic control, weight loss, and device-related adverse AEs.

Fig. 1
**Methods** A search of multiple electronic databases to identify RCTs that compared DJBL to control (sham and/or diabetes pharmacotherapies) was performed. Evaluated outcomes included total weight loss (TWL), percentage of weight loss (%WL), percentage of excess weight loss (%EWL), decrease (%HbA1c) and final glycemic indices (HbA1c), hospitalization, and adverse events (AE) in DJBL group. The risk of bias was assessed by RoB-2 tool, data were analyzed with Comprehensive Meta-Analysis V3 software, and quality of evidence by GRADE.

**Results** Ten RCTs were a total of 681 patients. The DJBL group showed superior TWL compared to the control group (+6.64kg, p = 0.004), in 2018, 2019, 2020 and 2021. Similar di weights (SD) were 114.1 kg (21.7), 108.6 kg (19.9), 102.6 kg (16.8) and 104.7 kg (18.9) respectively. The prevalence of hospitalization in DJBL was 17.2%, p < 0.002 and severe AEs was 21.9%, p = 0.006. Some AEs included liver abcess (1.2%, p < 0.0001), gastrointestinal bleeding (6.5%, p < 0.0001), device migration (8%, p < 0.001), and obstruction (3.8%, p < 0.001). Some complications self-resolved after removal of the device without sequelae.

**Conclusions** DJBL is an effective and safe endoscopic therapy for the treatment of obesity and T2D, significantly reducing TWL, %EWL, and %HbA1c.

**OP116 “COVESITY”: THE IMPACT OF SARS-COV-2 PANDEMIC ON SIX-MONTH WEIGHT TRAJECTORIES OF PATIENTS UNDERWENT ENDOSCOPIC SLEEVE GASTROPLASTY IN A FOUR-YEAR PERIOD 2018-2021**

**Authors** Carlino G.1, Bove V.1, Pontecorvi V.1, Matteo M.V.1, De Siena M.1, Giannetti G.1, Antonini N.1, Massari C.1, Costamagna G.1, Bošković I.1

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**DOI** 10.1055/s-0042-1744679

**Aims** To evaluate the effects of the pandemic on weight indices, a retrospective analysis on a prospective database of patients underwent Endoscopic Sleeve Gastroplasty (ESG) from 2018 to 2020 and hereby evaluated, excluding patients enrolled in clinical trials.

**Methods** For each year weight indices were collected at baseline and after 1-, 3- and 6-months follow-up. Statistical comparisons were performed by ANOVA test.

**Results** In the four-year period, 44 (61% women), 79 (70% women), 102 (74% women) and 75 patients (80% women) underwent ESG in 2018, 2019, 2020 and 2021, respectively. There were no significant differences in mean age. Main weights (SD) were 114.1 kg (21.7), 106.8 kg (19.9), 102.6 kg (16.8) and 104.7 kg (18.9) in 2018, 2019, 2020 and 2021. Significant differences were found for BMI (p = 0.003), EW (p = 0.002) and EBMI (p = 0.003). At the 1-, 3- and 6-months follow-up patients’ compliances were 100%, 99%, 97% in the 2018, 97%, 93%, 77% in the 2020 and 94%, 65% and 20% in the 2021.

One month after ESG EWL, TBWL and ΔBMI were sensibly higher in the 2020 (p < 0.001; p = 0.001; p = 0.041). At the 3-month follow-up EWL and TBWL were sensibly higher in the 2020 (p < 0.001 and p = 0.013) whereas BAROS score was higher in the 2021 (p = 0.003). After six-month EWL, TBWL and BAROS score were higher in the 2020 (p = 0.009; p = 0.015; p = 0.003).

**Conclusions** Our analysis showed on the one hand how the pandemic interrupted the downward trend (2018-2019) of the weight indices, while on the other it observed better weight loss outcomes in 2020 compared with 2018, 2019 and 2021.

**Early colorectal cancer: diagnosis and treatment**

Friday, 29 April 2022

**OP117 IMPACT OF FIT-BASED CRC POPULATION SCREENING PROGRAM ON THE MANAGEMENT OF PT1 COLORECTAL CANCER**


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**DOI** 10.1055/s-0042-1744680

**Aims** To compare the characteristics and management of pT1 Colorectal Cancer (CRC) diagnosed within and outside a Faecal Immunochromatographic Test-based population CRC screening program.

**Methods** Retrospective, multicenter, Nation-based, cohort study (EpIT1 consortium) including all pT1 CRC cases diagnosed between 2007-2018 regardless of the treatment received. Multivariate analysis was performed using binary logistic and Cox regression.

**Results** From a sample of 3649 patients, 3163 were finally included for the analysis: 1417(45%) of them diagnosed within a FIT-based population CRC
screening program and 1745 (55%) outside of it. Baseline patients, colonoscopy and lesions characteristics were significantly different in both groups with more males (85% vs 59% p < 0.001), younger age (61.9 ± 6.6 vs 68.8 ± 10.9 p = 0.001), less comorbidity (ASA I and II) (85% vs 66% p < 0.001), more adequate bowel preparation (94% vs 84% p < 0.001), major cecal intubation rate (97% vs 91% p < 0.001), small lesion size (21.2 ± 10.9 vs 25.4 ± 14.1 p = 0.001) and distal tumor location (86% vs 78% p < 0.001) in the FIT-based screening group. The primary and definitive management of the lesions was different in both groups (image). The screening programme was independently associated to a higher primary and definitive endoscopic treatment (Table 1). The overall and CRC adjusted survival in the screening group vs the rest were 93.3% vs 80.3% and 98.5% vs 97.2%, respectively.

**Table 1**

<table>
<thead>
<tr>
<th>INDICATION</th>
<th>Primary endoscopic treatment Adjusted OR (95% CI)</th>
<th>Secondary surgical treatment Adjusted OR (95% CI)</th>
<th>Definitive endoscopic treatment Adjusted OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIT-based Population Screening Program</td>
<td>1.6 (1.25 – 2.07)</td>
<td>0.90 (0.73 – 1.10)</td>
<td>1.23 (1.01 – 1.49)</td>
</tr>
<tr>
<td>Age (Over 65 yo)</td>
<td>0.3 (0.23 – 0.38)</td>
<td>0.70 (0.57 – 0.85)</td>
<td>1.29 (1.07 – 1.57)</td>
</tr>
<tr>
<td>Degree of comorbidity (ASA III-IV)</td>
<td>1.29 (0.98 – 1.70)</td>
<td>0.75 (0.59 – 0.95)</td>
<td>1.35 (1.08 – 1.68)</td>
</tr>
<tr>
<td>Size (Greater than 20 mm)</td>
<td>0.3 (0.23 – 0.38)</td>
<td>1.52 (1.25 – 1.85)</td>
<td>0.48 (0.40 – 0.58)</td>
</tr>
<tr>
<td>Location (Distal to splenic angle)</td>
<td>2.4 (1.84 – 3.15)</td>
<td>0.50 (0.36 – 0.69)</td>
<td>2.55(1.90 – 3.43)</td>
</tr>
<tr>
<td>Lesion Morphology (pedunculated)</td>
<td>7.17 (5.29 – 9.72)</td>
<td>0.38 (0.31 – 0.47)</td>
<td>3.81(1.18 – 4.58)</td>
</tr>
</tbody>
</table>

**Conclusions**

pT1 CRC detected in the setting of a FIT-based population screening program are more often managed with endoscopic resection as primary and definitive treatment without impact on disease-free survival.

**OP118 T1 COLORECTAL CANCER TREATED BY ENDOSCOPIC RESECTION: IS THE PROGNOSIS DIFFERENT BETWEEN RECTAL AND COLON TUMORS?**

**Authors**


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**Aims**

Several studies suggest that rectal tumors have a poorer prognosis than colon tumors. The objective of this study was to compare the prognosis between T1 colon cancers and T1 rectal cancers treated by endoscopic resection.

**Methods**

We conducted a retrospective study including patients who had endoscopic resection for T1 colorectal cancer in fourteen French expert centers between March 2012 and July 2019.

**Results**

462 patients were included. The mean age was 67.2 ± 11.4. 207/462 (44.8%) patients had rectal tumor and 255/462 (55.2%) had colon tumor. There were significantly more Paris 0-Ip pedunculated polyps among the colon tumors 72/255 (28.2%) than among the rectal tumors 7/205 (3.4%) p < 0.001. There were significantly more endoscopic submucosal dissections among rectal tumors 142/207 (68.6%) than among colon tumors 72/254 (28.3%) p < 0.001. Concerning the prognosis, among the 225/462 (48.7%) patients who underwent additional surgery, there were significantly more lymph node involvements in rectal tumors 16/84 (19.0%) than in colon tumors 14/141 (9.9%) p = 0.05. In contrast, there was no statistically significant difference in terms of cancer recurrence during follow-up between colon 6/255 (2.4%) and rectal tumors 7/207 (3.4%) p = 0.506. In multivariate analysis, only poor differentiation (p = 0.009) and lymphovascular invasion (p = 0.031) were significant in predicting lymph node involvement. On the other hand, tumor location (p = 0.424) as well as the other usual histological risk factors such as high-grade budding (p = 0.202) and deep submucosal invasion (p = 0.815) were not significant in multivariate analysis to predict lymph node involvement.

**Conclusions**

In terms of prognosis, it seems unnecessary to differentiate rectal and colon location of T1 colorectal cancers treated by endoscopic resection.

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**Fig. 1**
OP119 MRI PRIOR TO PRECISE ENDOSCOPIC EVALUATION OF RECTAL LESIONS MAY LEAD TO UNNECESSARY RADICAL TREATMENT

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Aims Proper preprocedural staging of rectal lesions is crucial for the patient’s future outcomes and quality of life. Early rectal tumors with a depth of neoplastic invasion up to stage T1 may be curatively treated endoscopically; deeper tumors require more invasive treatment. Endoscopic assessment of the depth of neoplastic invasion is often challenging and occasionally additional radiological imaging is used. The aim of this study was to assess the accuracy of pelvic magnetic resonance imaging (MRI) to distinguish stages T0/TIS-T1, where curative endoscopic resection is possible, from stages T2-T4, in the preoperative staging of rectal neoplasia.

Methods The retrospective monocentric analysis included patients who had undergone rectal endoscopic submucosal dissection (240 patients), of which 29 patients have had preoperative MRI from January 1st 2016 to November 30th 2021. The T stage determined from pelvic MRI was compared with benchmark histopathological results.

Results Sensitivity for differentiating T0/TIS-T1 from T2-4 was 100 %; specificity was 60.71 %. Accuracy was 62.1 %, with overstaging observed in 37.9 % of cases. Four patients that were already scheduled for abdominoperineal resection were surgically treated endoscopically, and the operations were canceled.

Conclusions We observed a consistent tendency towards overstaging using MRI – our findings support current recommendations against the use of MRI for tumor staging in early rectal neoplasia. Overstaging can lead to unnecessary surgical resection both with or without neoadjuvant treatment. Even in cases when MRI has already been performed, we recommend precise endoscopic evaluation, coupled with as-needed local excision when diagnosing potential early neoplastic lesions.

OP120 PREDICTED ABSOLUTE RISK OF LYMPH NODE METASTASIS IN T1 COLORECTAL CANCER IN THE SOLE PRESENCE OF TUMOUR BUCKING, LYMPHOVASCULAR INVASION, OR POOR DIFFERENTIATION: A META-ANALYSIS

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Aims High-grade (Bd2/Bd3) tumour budding (TB), poor differentiation (PD) and lymphovascular invasion (LVI) are regarded as the strongest predictors for lymph node metastasis (LNM), and their presence considered an indication for completion surgery. However, these risk factors are strongly intercorrelated and their individual predictive strength is unclear. This study therefore aimed to investigate the absolute risk of LNM in the presence of only one of these risk factors.

Methods Studies were eligible for this meta-analysis if a multivariable analysis on the risk of LNM in T1CRC was performed with at least LVI, PD and TB as risk factors. The adjusted odds ratios were pooled in a random-effects model. To convert the pooled adjusted odds ratios (pORs) to absolute risks, a multivariate logistic regression model including the pORs but with an undefined intercept was fitted on a retrospective multicentre cohort of 628 Dutch T1CRC patients (12 % LNM, 92 % deep submucosal invasion, 93 % non-pedunculated, 32 % rectum). Predicted probabilities of LNM with their corresponding 95 % confidence intervals (95 %CI) were calculated in the presence of one risk factor.

Results A total of 14 studies (4628 patients) were included in the meta-analysis. LVI was the strongest predictor (pOR: 4.89 [95 %CI: 2.89-8.27]), followed by PD (pOR: 3.10 [95 %CI: 2.02-4.75]) and TB (pOR 2.34 [95 %CI: 1.69-3.25]). The results of the fitted model (AUC 0.72 [95 %CI: 0.66-0.77]) are summarized in Table 1

<table>
<thead>
<tr>
<th>Absence of risk factors</th>
<th>TB +, PD-, LVI-</th>
<th>TB-, PD +, LVI-</th>
<th>TB-, PD-, LVI+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicted probability (95 %CI)</td>
<td>3.1 % (2.3 % -3.9 %)</td>
<td>6.9 % (5.2 % -8.6 %)</td>
<td>8.9 % (6.8 % -11.1 %)</td>
</tr>
</tbody>
</table>

Conclusions The absolute risk of LNM in the presence of a single histopathological risk factor varies between 6.9 % and 13.4 %, and is strongest for LVI.

OP121 T1 COLORECTAL CANCERS TREATED BY ENDOSCOPIC RESECTION: TUMOR SIZE AS A NEW PROGNOSTIC FACTOR?

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Aims Tumor size seems to be an important prognostic factor in colorectal cancers, especially in T1. The objective of this study was to compare the rate of lymph node involvement among small ≤20mm T1 colorectal tumors and those of larger size >20mm.

Methods We conducted a retrospective study including patients who had endoscopic resection of high-risk T1 colorectal cancer followed by additional surgery with lymph node dissection in thirteen French expert centers between March 2012 and July 2019.

Results 141 patients were included. The mean age was 64.1 +/−10.6 years. 49/141(34.8 %) patients had small tumors and 92/141(65.2 %) had large tumors. There were significantly more rectal cancers among large tumors 46/92(50.0 %) than among small tumors 9/49(18.4 %) p<0.001. There were significantly more Paris 0-Ip pedunculated polyps among small tumors 19/49(38.8 %) than among large tumors 12/92(13.0 %) p<0.001. There were significantly more submucosal dissections among large tumors 75/92(81.5 %) than among small tumors 5/49(10.2 %) p<0.001. Concerning the primary outcome, there were significantly more lymph node involvements among large tumors 17/92(18.5 %) than among small tumors 3/49(6.1 %) p<0.005. In multivariate analysis, the only factor that remained significant in predicting lymph node involvement was poor differentiation (p=0.005). As for tumor size, it almost reached statistical significance (p=0.091). On the other hand, the other
usual histological risk factors such as lymphovascular invasion (p = 0.12), high-grade budding (p = 0.504) and deep submucosal invasion (p = 0.82) were not significant in multivariate analysis.

Conclusions This retrospective multicenter study showed that small T1 colorectal cancers treated by endoscopic resection appeared to have a better prognosis than those of larger size.

**OP122 ENDOSCOPIC FULL-THICKNESS RESECTION (EFR) FOR EARLY COLORECTAL CARCINOMA (CRC) – A RETROSPECTIVE ANALYSIS OF 31 CONSECUTIVE CASES**

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**DOI** 10.1055/s-0042-1744685

**Aims** EFR has an emerging role in the resection of early CRC with low-risk histological features. We aimed to access the efficacy, safety and oncologic follow-up of patients with early CRC treated with eFR.


**Results** Of the 106 eFR performed in our endoscopy department, 31 patients with early CRC (12 women, mean age 72) were found. The 22 colon and 9 rectal lesions could all be reached; mean histologic lesion size was 13.7 mm (3-25 mm), Mean procedure time was 47,3 min (25-70 min). Technically successful resection and histological R0 resection was achieved in 93.5 % and 67.7 % of cases, respectively. In 9/31 patients with previously incompletely resected CRCs (R1/Rx) no residual cancer was histologically found after eFR. 4/31 patients had high-risk features, of which one patient underwent oncological resection (R1 at lateral margin). 18/31 patients had high-risk features (T2, sm2-3, L1, R1), of which only 8 patients underwent an oncological surgery. Over a median follow-up period of 15.5 months (0-47), one patient died from cardiac cause and one patient who previously underwent surgery experienced a tumor recurrence (liver metastasis). Adverse events included 2 minor bleedings, one ileus, which could be managed conservatively, and two perforations, which could be closed endoscopically with an over-the-scope clip.

**Conclusions** eFR allows accurate histological risk assessment, which may spare patients with early CRC an oncologic surgery. Prospective studies with appropriate oncologic follow-up are needed to evaluate long-term efficacy.

**Table 1**

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>Total N = 118</th>
<th>C-FCMS N = 48 (%)</th>
<th>A-FCMS N = 70 (%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migration 1st revision</td>
<td>30 (24.5)</td>
<td>18 (37.5)</td>
<td>12 (17.1)</td>
<td>0.04</td>
</tr>
<tr>
<td>Resolution 1st revision</td>
<td>62 (52.2)</td>
<td>24 (50)</td>
<td>38 (54.3)</td>
<td>088</td>
</tr>
<tr>
<td>Final resolution</td>
<td>105 (89)</td>
<td>43 (89.3)</td>
<td>62 (88.6)</td>
<td>0.86</td>
</tr>
<tr>
<td>STENTS Individual stent dwell time (IQR), months</td>
<td>Total N = 151 5 (2-7)</td>
<td>C-FCMS n = 58 3 (2-6)</td>
<td>A-FCMS n = 93 5 (2-7)</td>
<td>0.03</td>
</tr>
</tbody>
</table>

**Conclusions** A-FCMS are associated with lower migration rates, longer stent dwell time and lower late BAS recurrence rates compared to C-FCMS in LT patients undergoing endotherapy.

**OP124 INTRAVENOUS HEMIN, A POTENTIAL HEME OXYGENASE-1 ACTIVATOR, DOES NOT PROTECT FROM POST-ERCP ACUTE PANCREATITIS IN HUMAN: RESULTS OF A RANDOMIZED MULTICENTRIC MULTINATIONAL PLACEBO CONTROLLED TRIAL**

**Authors** Yared R.1, Chen C.-C.2, Vandorpe A.3, Arvanitakis M.1, Delhaye M.1, Fernandez M., Viesca Y1, Huberty V.1, Blier D.1,4, Toussaint E.A.5, Hitelet A.5, Verset D.7, Margos W.7, Le Moine O.1, Niimi H.6, Liao W.-C.2, Devière J.1, Lemmers A.1

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**Methods** Retrospective cohort study of consecutive LT patients receiving endotherapy for choledocho-choledochostomy BAS with conventional FCMS (C-FCMS) or A-FCMS between 2005-2020 at single tertiary-center. Previous biliary plastic stent placements were also included. Patients were classified according to FCMS type on index ERCP. Primary outcomes: migration and resolution rates on first endoscopic revision. Secondary outcomes: initial/final resolution and recurrence rates.

**Results** 651 patients underwent LT during the study period; 118 BAS patients (79 % male; median [IQR] age of 57.5 [50.2-62.7] years) were included. 48 patients received a total of 58 C-FCMS, 70 patients received 93 A-FCMS. 10x80 mm was the most common FCMS size (81.4 %). Median time from LT to index ERCP was 8 months (IQR 3-21). Baseline features were comparable, except that C-FCMS had higher rates of previous plastic stent [27 (56.3 %) vs 24 (34.3 %), p = 0.02]. A-FCMS patients presented a lower migration rate on first endoscopic revision, similar resolution rates on first endoscopic revision and at the end of treatment; A-FCMS dwell time for each stent was significantly longer. After a median follow-up of 52 months (IQR 17-89), BAS recurrence was observed in 26 patients (22 %), with a higher rate in C-FCMS patients [14 (29.2 %) vs 12 (17.1 %), p = 0.27]. Patients with BAS recurrence had shorter stent dwell time [6 (4-8) months vs 7 (5-13.5), p = 0.02].
Aims Hemin, a Heme-oxidase-1 activator has proven efficacy in the prevention and treatment of acute pancreatitis in mice models. We conducted a randomized controlled trial (RCT) to assess the protective effect of Hemin administration to prevent post-ERCP pancreatitis (PEP) in moderate risk patients.

Methods In this multicenter, multinational, placebo-controlled, double-blind RCT, we assigned patients at moderate risk for PEP to receive a single IV dose of Hemin (4mg/kg) or placebo immediately after ERCP. Patients were considered to be at moderate risk on the basis of validated patient and/or procedure-related risk factors. No rectal NSAID nor pancreatic stent insertion was allowed in randomized patients. The primary outcome was incidence of PEP. Secondary outcomes evaluated lipase elevation, mortality, safety and length of stay.

Results:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Hemine (N = 141)</th>
<th>Placebo (N = 140)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female sex – no (%)</td>
<td>78 (58.6%)</td>
<td>69 (52.3%)</td>
<td>0.324</td>
</tr>
<tr>
<td>Past history of acute pancreatitis – no (%)</td>
<td>3 (2.1%)</td>
<td>8 (5.7%)</td>
<td>0.137</td>
</tr>
<tr>
<td>Past history of ERCP pancreatitis – no (%)</td>
<td>2 (1.4%)</td>
<td>1 (0.7%)</td>
<td>0.99</td>
</tr>
<tr>
<td>Normal bilirubin – no (%)</td>
<td>64 (45.4%)</td>
<td>73 (52.1%)</td>
<td>0.284</td>
</tr>
</tbody>
</table>

A total of 281 of the 294 randomized patients had completed follow-up. Groups were similar in terms of clinical, laboratory and technical risk factors for PEP (Table 1). PEP occurred in 16 of 141 patients (11.3%) in the Hemin group and in 19 of 140 patients (13.6%) in the Placebo group (p = 0.593). Incidence of severe PEP reached 0.7% and 3.6% in the Hemin and Placebo groups respectively (p = 0.12). Lipase elevation at more than 3x ULN after ERCP did not differ between groups. Length of hospital stay was similar between groups (4.8 vs 4.7 days; p = 0.784) as well as mortality rate or severe adverse events.

Conclusions Among patients at moderate risk for PEP, intravenous Hemin injection does not protect from PEP when given after the procedure.

OP126V ENDOSCOPIC REPAIR OF POST-SURGICAL DISCONNECTED BILE DUCTS (DBDS) BY MAGNETIC COMPRESSION ANASTOMOSIS (MCA) VIA EUS-GUIDED ANASTOMOSES

Authors Dura-Gil M.1, de Benito M.1, Fuentes-Valenzuela E.1, Sclarretta M.1, Estradas-Trujillo J.A.1, Sanchez-Ocana R.1, de la Serna C.1, Perez-Miranda M.1

Institute 1 Hospital Universitario Rio Hortega, Gastroenterology and Hepatology, Valladolid, Spain


Daughter/parent magnets were placed into proximal/distal sides of DBDs <15-mm apart. A 5x8-mm daughter-magnet was placed via EUS-guided SEMS hepaticogastrostomy in two patients. A same-sized parent-magnet was placed by ERCP into the distal biliary stump of a post-cholecystectomy Strasberg-E3 transection patient with portal hypertension and native GI- anatomy. A 4x10-mm double-disc parent-magnet was placed via EUS-guided LAMS gastojejunostomy on the jejunal of a Roux-en-Y post-Whipple patient. Both magnet sets coupled within 10-days. Transapillary/trans-anastomotic SEMS were placed across the MCA upon magnet/ trans-SEMS removal, and retrieved 4/8 months later, respectively. Cholangioscopy documented DBD reconnection. Both patients remain symptom and stent free at 2/9 months.

Conclusions Sphincteroplasty at index procedure, dilated bile duct, stent duration >3 months, 7 Fr stent size increase the risk of internal stent migration. Migrated stents can be retrieved successfully using simple accessories in majority of the cases.

OP127V ENDOSCOPIC ELECTROINCISION OF DIFFICULT ANASTOMOTIC BILARY STRicture AFTER LIVER TRANSPLANTATION

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Benign biliary stenosis (BBS) can be caused by a variety of etiologies, including post-operative injuries (i.e., post-cholecystectomy, liver transplantation), chronic pancreatitis, chronic cholangiopathies and traumas. Clinical manifestation varies from incidental elevation of liver function test in asymptomatic patients to more severe clinical course with jaundice and cholangitis. If left untreated, BBS can lead to chronic cholestasis, recurrent sepsis, and secondary biliary cirrhosis.
Endoscopic Retrograde Cholangio-Pancreatography (ERCP) is the preferred option for most of these cases, since it is effective, safe and minimally invasive.

In this case, a novel procedure for recanalization of anastomotic biliary strictures after liver transplantation is reported.

**OP128  FEASIBILITY AND OUTCOMES OF EUS-GUIDED MAGNETIC COMPRESSION ANASTOMOSIS (EUS-MCA) TO REPAIR DISCONNECTED BILE DUCTS (DBDS): A PILOT STUDY**

**Authors**
Dura-Gil M.1, de Benito M.1, Sanchez-Ocana R.1, Carbajo-Lopez A.Y.1, Scarretta M.1, Estradas-Trujillo J.A.1, Almohalla C.1, Penas-Herrero I.1, de la Serna C.1, Perez-Miranda M.1

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**DOI**
10.1055/s-0042-1744691

**Aims**
Introduction: Intra/extraluminal rendezvous via PTBD may enable ERCP in DBDs. MCA placing daughter/parent magnets across DBDs achieves > 90% repair (PMID:27619787). MCA involves prolonged external PTBD. EUS-guided hepaticogastrostomy (HGS) replicates percutaneous rendezvous in post-cholecystectomy DBDs (PMID:34816304). Might transmural EUS-BD replace PTBD as a route for magnet insertion/removal during MCA?

**Methods**
Thirteen consecutive patients (62.9 ± 11.4 years) with DBDs <15-mm failing guidewire canalization underwent EUS-MCA between 2012-2021. Cylindrical rare-earth magnets 4x10-mm/3-6-mm with nylon-threadcentral guidewire-lumen were placed intra-dually through transmural SEMS/fistulas after HGS/CDS with fully-covered-SEMS (proximal magnet) or by ERCP (distal magnet). Disc-shaped 10x3-mm magnets were placed on the jejunum of patients with Roux-en-Y hepaticojejunostomy (RYHJ) via EUS-guided LAMS gastrojejunostomy (EUS-GJ). HGS/CDS stents were removed upon DBD recanalization and stenting at magnet removal. Ductal SEMS and Gj-LAMS were removed after DBD remodeling.

**Results**
DBD location, 2 right-hepatic (1 post-chole transaction, 1 liver trauma), 1 common-hepatic (1 post-chole transaction), 5 choledocho-choledocho-stomy (OLT), 4 RYHJ (Whipple), 1 choledochojejunostomy (OLT). Transmu-
ral EUS-BD location, 10 transhepatic (HGS/hepatico-jejunosmotomy = 9/1), 3 CDS. Magnet insertion succeeded in 12/13, coupling with de-novo-MCA in 11/12 (92%) (1 unrelated death). Magnets retrieved/migrated (5/6) a median 12.5(7-21) days post-placement. Transpapillary SEMS removed in all but 2 (awaiting removal) after a median 172(41-470) days, with successful DBD remodeling. Moderate-severity AE: 3 cholangitis, 1 abscess. After a median 13.5(0.5-41) months 2/7(28 %) recurrent strictures underwent ERC re-treatment.

**Conclusions**
EUS-MCA is feasible and appears effective in selected DBDs.

**OP129  DECISION-TO-SCOPE (DTS) SCORE: A NOVEL TOOL WITH EXCELLENT ACCURACY IN PREDICTING FOREIGN BODIES IN THE UPPER GASTROINTESTINAL TRACT**

**Authors**
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**DOI**
10.1055/s-0042-1744692

**Aims**
Foreign body (FB) ingestion is a common indication for urgent esopha-
gastroduodenoscopy (EGD). Nevertheless, most of ingested FB pass spontaneously through the gastrointestinal (GI) tract. Differently from upper GI bleeding, there is no currently validated score identifying “low-risk” patients in suspected FB ingestion. We aimed to create a score to discriminate patients who are candidates to urgent EGD in this scenario.

**Methods**
Retrospective study of consecutive patients with suspected FB in the upper GI tract between 2016 and 2021. The evaluated outcome was confirmed FB in EGD. Significant predictors on multivariate analysis were computed into a score predicting the outcome.

**Results**
We included 228 patients, 122(53.5 %) female, with a mean age of 58.0 ± 19.7 years. From these, 97(42.5 %) had confirmed FB in EGD. Time since ingestion <6h (OR = 4.0; p = 0.042); absence of any meal after FB ingestion (OR = 7.1; p = 0.005); dysphagia (OR = 11.8; p < 0.001); odynophagia (OR = 4.6; p = 0.004); and drooling (OR = 15.1; p < 0.001) were independent predictors of confirmed FB on EGD. These variables were computed in a predicting score – the Decision-To-Scope (DTS) score: time since ingestion <6h (1pt), absence of meals ( + 2pts), dysphagia ( + 3pts), odynophagia (+1pt), and drooling (+4pts), with a maximum of 11pts, which had excellent accuracy to predict the outcome (AUC = 0.953; p < 0.001). Optimal cut-off to identify low-risk patients was ≤5 (sensitivity 85 %; specificity 95 %).

**Conclusions**
More than half of suspected FB were not confirmed by EGD. The DTS-score presented an excellent accuracy at stratifying patients’ risk, and may contribute to the decision to perform urgent EGD in suspected FB in the upper GI tract.

**OP130V  COMBINATION OF THROUGH-THE-SCOPE BALLOON, TRANSPARENT CAP AND OVERTUBE TO REMOVE A MIGRATED SELF-EXPANDING METAL STENT DISTAL TO A TIGHT ESOPHAGEAL STRICURE**

**Authors**
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1 Armes University Teaching Hospital, Gastroenterology, Halberstadt, Germany

**DOI**
10.1055/s-0042-1744693

A 55-year-old male underwent placement of a fully-covered-self-expanding-
metal-stent for benign esophageal stricture at an outside hospital, which migrated distally and a second fcsEMS was inserted, dislodging as well. The patient was referred to our unit. The proximal stent had migrated proximally and was removed using a forceps. To remove the distal fcsEMS we dilated the tight stenosis using an over-the-wire, through-the-scope, controlled-radial-expansion balloon, inserted an overtube and placed a transparent cap on the scope. This triple- combined technique allowed to pull the fcsEMS into the cap and through-the-overtube, preventing perforation during the passage of the stent through the freshly dilated stenosis.

**OP131V  THE SET DOUBLE TUNNEL TECHNIQUE**

**Author**
Mochberger J.1

**Institute**
1 Vivantes Klinikum im Friedrichshain, Gastroenterology, Berlin, Germany

**DOI**
10.1055/s-0042-1744694

A 58-year-old patient was referred because of an obstructing submucosal tumor at the level of the aortic arch. The tumor was successfully removed in SET technique but was to big to be extracted through the cranial incision and UES. As the patient had an axial hernia a second submucosal tunnel was created reaching to the distal esophagus. A mucosal incision was made and allowed the safe expulsion of the tumor and advancement into the stomach. The tumor was now cut into nine pieces which were removed through the esophagus. The technique and the eventful follow-up after 3 mo are shown.
OPI32V  ENDOSCOPIC CLOSURE OF BRONCHOESOPHAGEAL FISTULA (BEF) OCCURRING AS AN ADVERSE EVENT FOLLOWING SUBMUCOSAL TUNNELING ENDOSCOPIC RESECTION (STER) OF AN ESOPHAGEAL LEIOMYOMA USING BIODEGRADABLE FISTULA PLUGS

Authors  Bapaye A.1, Gandhi A.1, Pawar B.2, Ansari J.1, Raina H.1, Bapaye H.3, Nikumbh T.1

Institutes  1 Deenanath Mangeshkar Hospital and Research Centre, Shivanand Desai Centre for Digestive Disorders, Pune, India; 2 Byramjee Jeejeebhoy Govt. Medical College, Pune, India


A 69 year old male patient, in a poor general condition who presented esophageal leiomyoma. FNA not performed—could compromise STER due to resultant hypoechoic lesion—layer 3 (40 mm diameter). STER planned assuming esophageal fistula; contrast swallow—no leak. Oral diet—48 hours & discharge 4 days later. 2 weeks post-STER—cough on swallowing. CECT—BEF; EGD—mucosal breakdown at diaphragm injury site; bronchoscopy—BEF—right main bronchus.

Procedure—supine, endotracheal intubation, simultaneous EGD & bronchoscopy; bronchoscopy guided APC to refresh fistula edges. Two 0.025" guidewires via bronchoscope into esophagus under fluoroscopy. Two fistula plugs trimmed, backloaded over guidewire, pushed using 5Fr pusher across swallowing. CECT—BEF; EGD—mucosal breakdown at diaphragm injury site; bronchoscopy—BEF—right main bronchus.

Post-STER closure—no contrast leak. Nasogastric feeds after 24 hours. Clinical improvement; discharged after 7 days. 2 weeks later, bronchoscopy—BEF sealing; SEMS removed, EGD—healed fistula; contrast swallow—no leak. Oral diet; asymptomatic at 2-months f/u.

OP133V  SUBMUCOSAL TUNNELLING AND ENDOSCOPIC MARSUPIALISATION AS A SAFE AND EFFECTIVE TREATMENT OF ESOPHAGEAL BRONCHOGENIC CYST (EBC)

Authors  Ansari J.1, Gandhi A.1, Raina H.1, Bapaye H.2, Nikumbh T.1, Pujari R.1, Bapaye A.1

Institutes  1 Deenanath Mangeshkar Hospital and Research Centre, Shivanand Desai Centre for Digestive Disorders, Pune, India; 2 Byramjee Jeejeebhoy Govt. Medical College, Pune, India


A 61–y-male with dysphagia; CECT—esophageal sub-epithelial lesion (SEL); EGD—distal esophageal SEL—anterior wall at 29–35 cm; EUS—well circumscribed solid hypoechoic lesion—layer 3 (40 mm diameter). STER planned assuming esophageal leiomyoma. FNAs not performed—could compromise STER due to resultant submucosal (SM) fibrosis. Procedure—supine, endotracheal intubation; CO2 insulation; mucosal incision and SM tunneling; significant SM fibrosis; inadvertent puncture of cyst with drainage of turbid fluid—suspect of bronchogenic/ duplication cyst; intra-cystic papillary projections—biopsied; therefore procedural plan changed—de-roofing of cyst cavity followed by marsupialisation—cyst lining clipped to esophageal mucosa using multiple endoclips; mucosal incision closed. Contrast swallow—no leak. Oral diet after 24 hours. HPE—pseudo-stratified ciliated columnar epithelium (x) bronchogenic cyst. 4-week f/u—EGD—cyst epithelialisation, healed incision site; asymptomatic at 3-month f/u.

OP134V  SALVAGE ESD

Authors  Charara F.1, Eisendrath P.1, Verset L.2, Demetter P.1, Lemmers A.2

Institutes  1 ULB, Gastro-enterology—Surgery, Brussels, Belgium; 2 ULB, Gastro-enterology, Brussels, Belgium


A 69 year old male patient, in a poor general condition who presented esophageal suspicious lesion.

Patient was unfit for surgery due to severe lung dysfunction, denutrition and psychiatric disorders.

Although not reaching curative criteria (sm1, poorly differentiated) but R0 resection, considering the patient clinical condition, a watchful waiting strategy was adopted.

Patient experiences a small recurrence in the middle of the ESD scar at 5 month without any metastatic dissemination.

After multidisciplinary discussion, the patient again refused surgery. A salvage endoscopic resection was attempted using ESD technique.

Detection and optical diagnosis of colorectal lesions 11:30–12:30

Friday, 29 April 2022 Club E

OP135  REAL-TIME ARTIFICIAL INTELLIGENCE (AI) AUTOMATIC DIAGNOSTIC SYSTEM FOR COLORECTAL POLYPS USING RESIDUAL NETWORK (RESNET)

Authors  Komeda Y.1, Handa H.2,3,4, Hatori S.2, Takenaka M.1, Kashida H.1, Kudo M.1

Institutes  1 Kindai University Faculty of Medicine, Osaka, Japan; 2 Kindai University, Faculty of Science and Engineering, Osaka, Japan; 3 Kindai University, Research Institute for Science and Technology, Osaka, Japan; 4 Kindai University, Cyber Informatics Research Institute, Osaka, Japan


Aims  Convolutional neural networks (CNNs) are widely used for artificial intelligence (AI)-based image classification. Residual network (ResNet) is a new technology that facilitates the accuracy of image classification by CNN-based AI.

Methods  In this study, we developed a novel AI model combined with ResNet to diagnose colorectal polyps. In total, 127,610 images consisting of 62,510 images with adenomatous polyps, 30,443 with non-adenomatous hyperplastic polyps, and 34,657 with healthy colorectal normal mucosa were subjected to deep learning after annotation. Each validation process was performed using 12,761 stored images of colorectal polyps by a 10-fold cross validation.

Results  The efficacy of the ResNet system was evaluated by sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and diagnostic accuracy. The sensitivity, specificity, PPV, NPV, and diagnostic accuracy for adenomatous polyps at WLIs were 98.8%, 94.3%, 90.5%, 87.4%, and 92.8%, respectively. Similar results were obtained for adenomatous polyps at low-band imagings (NBIs) and chromoendoscopy images (CEIs) (NBIs vs. CEIs: sensitivity, 94.9% vs. 98.2%; specificity, 93.9% vs. 85.8%; PPV, 92.5% vs. 87.1%; NPV, 93.5% vs. 99.9%; and overall accuracy, 91.5% vs. 90.1%).

Conclusions  The ResNet model is a powerful tool that can be used for AI-based accurate diagnosis of colorectal polyps.

OP136  MULTI-METHOD VALIDATION OF AN ARTIFICIAL INTELLIGENCE-BASED BOWEL PREPARATION QUANTITATIVE SYSTEM

Authors  Yao L.1, Wu H.1, Gong R.1, Zhang L.1, Yu H.1

Institute  1 Renmin Hospital of Wuhan University, Wuhan, China


Aims  The effectiveness of colonoscopy is dependent on the cleanliness of the bowel. Mandating the standardization of bowel preparation assessment and objectively identifying inadequate bowel preparation is important to improve colonoscopy patients outcome. With the development of artificial intelligence (AI) technology, automatic bowel preparation assessment systems have been developed. Despite the diversity of algorithms and scoring logics, systematic exploration and verification of the optimal algorithm and scoring logic are still
lacking. In this study, we compared the performance among current mainstream models and video output strategies using 816 prospectively enrolled colonoscopy procedures. The aim of this study is to develop an optimum bowel preparation assessment system and improve the standardization of AI-based bowel preparation assessment.

Methods 5 machine learning algorithms and 4 deep learning algorithms were trained for selecting an optimal algorithm in bowel preparation assessment image classification. Among the 9 algorithms, the algorithm with best performance was selected for the video output logic comparison. 4 video output logics, including proportion of categories, average confidence, accumulation of time interval scoring and LSTM that have been applied in gastrointestinal endoscopy before were compared.

Results The DCNN algorithm achieved highest accuracy on bowel preparation image classification (Accuracy = 95.3 %). For the video output logics, CNN & proportion has achieved the highest correlation on reflecting adenoma detection (ρ = -0.933). 

Conclusions We proposed a optimum deep learning-based bowel preparation assessment system with multi-method comparison. Further verification of the system might help optimise the current bowel cleansing assessment and assist in standardising practice in the future.

**OP137 A NEW ENDOSCOPIC CLASSIFICATION SCORE SYSTEM FOR SERRATED ADENOMAS IN THE COLORECTUM – THE EUROPEAN SERRATED POLYCLASSIFICATION SCORE (ESCO)**

**Authors** Klare P.1,2, Kainz F.3, Haller B.3, Rath T.4, Yamamoto S.5, Schmid R.M.2

**Institutes** 1 Krankenhaus Agatharied, Abteilung Gastroenterologie, Diabetologie und Hämato-Oncologie, Hausham, Germany; 2 Klinikum rechts der Isar der Technischen Universität München, Klinik und Poliklinik für Innere Medizin II, Munich, Germany; 3 Klinikum rechts der Isar der Technischen Universität München, Institut für Medizinische Informatik, Statistik und Epidemiologie, Munich, Germany; 4 Universitätsklinikum Erlangen, Medizinische Klinik 1, Erlangen, Germany; 5 Sahlgrenska University Hospital Östra, Department of Gastroenterology, Gothenburg, Sweden

**DOI** 10.1055/s-0042-1744700

**Aims** Several attempts have been established for optical classification of colorectal polyps, yet prediction to distinguish between sessile serrated lesions (SSL), adenomas and hyperplastic polyps remains uncertain. The aim of this study was to develop and validate a new endoscopic classification (ESCO) to differentiate between said polyp classes.

**Methods** In the first phase a regression analysis was conducted using a previously created polypl database in order to extract features being positively correlated with SSL histopathology. The most important SSL features were NICE-type 1 class, polypl localization or size, flat morphology, presence of a mucus-cap, and dark spots on polypl surface. Experts used these features for creating a new classification. The ESCO-classification was validate by a group of 5 medical students, 5 gastroenterology fellows and two expert endoscopists, using a library of 90 polypls.

**Results** ESCO-based predictions for SSL polypls showed a sensitivity ranging from 60 % to 88 %, specificity from 77 % to 92 %, positive predictive values from 59 % to 81 % and negative predictive value (NPV) from 82 % to 94 %. Accuracy of high-confidence optical predictions ranged from 73.6 % to 82.2 %. Experts reached the best results and performed significantly better compared to trainees regarding accuracy values (p = 0.016) (Figure 1).

**Conclusions** We formed a new classification system using optical and epide-miological criteria to predict the histopathological diagnosis of colorectal poly-pls including SSL. Using the ESCO-classification students, fellows and experts achieved good accuracy for optical diagnosis of SSL. The NPV for SSL in the expert group was > 90 %. Further trials in real-time setting are needed to continue validation of the classification.

**OP138 THE USE OF HYOSCINE BUTYLBROMIDE IMPROVES SESSILE SERRATED LESION DETECTION**

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**DOI** 10.1055/s-0042-1744701

**Aims** Sessile serrated lesions (SSL) are significant precursors of the alternative serrated neoplasia pathway. Achieving key performance indicators (KPI) in colonoscopy increases the detection of premalignant lesions. The SSL detection rate (SSLDR) is not currently recognised as a KPI, with no agreed minimal SSLDR. Data on the impact of Hyoscine Butylibromide (HB) on adenoma detection is conflicting. This study aimed to report the SSL detection rate over time and identify factors associated with increasing SSL detection.

**Methods** A retrospective review of screening colonoscopies from 2015-2021 was performed. Adenoma, hyperplastic polypl (HP) and SSL detection rates (ADR, HPDR, SSLDR) were recorded. High grade dysplasia (HGD) and cancer detection was documented. Quality measures including bowel preparation, patient comfort, sedation rates and use of HB were noted.

**Results** 4145 screening colonoscopies were reviewed. 2967 (71.6 %) had polypls. Male (60.5 %), median age 66 years (range 60-78). The detection rates for adenoma, SSL and HP were 56.9 %, 10.4 % and 23 % respectively. The SSLDR increased over the 6-year study period (7.4 % to 11.6 %, p = 0.01) (Figure 1), with no significant difference in individual endoscopists’ SSLDR (n = 6) (range 9.5 %–12.5 %, p = 0.6). Use of HB ranged from 7.1 %–45.6 %. ADR (70.6 % vs. 53.9 %, p = <0.01) and SSLDR (15.1 % vs. 9.4 %, p = <0.01) were greater with the use of HB. Bowel preparation did not impact the SSLDR (p = 0.15). SSL detection was associated with a higher HGD detection (5.1 % vs. 3.1 %, p = 0.028), but not cancer (3.3 % vs. 3.2 %, p = 0.98).

**Conclusions**
OP139 RESULTS OF THE EVALUATION OF THE SFED TRAINING IN ENDOSCOPIC SUBMUCOSAL DISSECTION

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Methods: The course consisted in a theoretical training with webinars and a practical training during which the participants had to practice ESD on virtual models. A last workshop evaluated the technical skills on a training box.

Results: Twenty participants were selected. The average score at the theoretical evaluation was 38.3 (+/- 5.1)/50 before the training and 40.9 (+/- 4.3)/50 after the training (p = 0.07). The average score of the pre-training practical assessment was 51.9 (+/- 12.6)/100 compared to 70.4 (+/- 9.1)/100 post-training (p < 0.001). There was a significant improvement in the following items: injection, skill score, complete dissection, marking, and traction.

Conclusions: The training set up by the SFED allowed a significant improvement of the participants’ technical skills in ESD. Evaluation of participants’ performance on human cases is ongoing.
OP141  MEAN WEIGHT LOSS POST-ENDOSCOPIC SLEEVE GASTROPLASTY IS INDEPENDENT OF THE SUTURE PATTERN: RESULTS FROM A RANDOMIZED CONTROLLED TRIAL

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Aims  We compared the efficacy of three different suturing patterns in terms of weight loss after endoscopic sleeve gastrectomy.

Methods  Prospective, single blind, single centre randomized controlled trial. Patients were randomly assigned to one of the three study groups plus lifestyle interventions. In group A, the suture pattern aimed to modify gastric accommodation by increasing the distention ability of the fundus, in group B to reduce the gastric volume and in group C to assume an interruption of the normal gastric emptying. Inclusion criteria: 18-64 years and BMI 30-40 kg/m². The difference in the mean percentage of weight loss [total body weight loss (TBWL) and excessive weight loss (EWL)] among the three groups at 12 months of follow-up consisted the primary outcome.

Results  Overall, 48 patients (83.3% female, age 41.9 years, BMI: 33.8 ± 2.7 kg/m²) were assigned to the three groups (16 in each group). In the entire cohort the mean (95% CI) TBWL and EWL at the end of the follow-up were 10.11% (7.1-13.12) and 42.56% (28.23-56.9). Regarding the primary endpoint there was no difference among the three study groups in terms of mean TBWL [9.13 ± (2.16-16.11)] vs. 11.29 ± (5.79-16.80) vs. 9.96 ± (4.58-15.35); p = 0.589) and mean EWL [34.54 ± (6.09-62.99) vs. 44.75 ± (23.63-65.88) vs. 46.94 ± (16.72-77.15); p = 0.888] at 12 months post-procedure. Moreover, the three groups did not differ neither in terms of mean gastric emptying time nor in terms of satiety tests at the end of the follow-up.

Conclusions  Different suture patterns during endoscopic sleeve gastrectomy demonstrated comparable efficacy in terms of weight loss with all of them achieving ≥25% EWL at 12 months.

OP142V  MEDIO-GASTRIC PERORAL ENDOCUTIC MYOTOMY (MG-POEM) IN THE MANAGEMENT OF POST-SLEEVE GASTRECTOMY (LSG) TWISTS: 4 CASES WITH VIDEO

Authors  Gonzalez J-M.1, Barthem M.1
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Medio-gastric twists represent up to 4% of LSG, with challenging management. We propose MG-POEM to treat these patients.

Between June 2020 and 2021, four patients presented with alimentary intolerance due to medio-gastric twist following LSG, and underwent MG-POEM after validation in obesity multidisciplinary council.

Procedures were performed under CO₂ with therapeutic gastroscope and a TriangleTip knife. All were successfully completed with intraoperative complication. One patient had antibiotic for postoperative fever and pain. At 6 months, median GOOSS and quality of life were significantly improved. Esophagogram and upper gastrointestinal endoscopy showed the disappearance of the twist.

CONCLUSIONS

TORe could be a safe and effective procedure for the resolution of symptoms of both Early and Late Dumping Syndrome.
OP144  ENDOSCOPIC VACUUM THERAPY FOR THE TREATMENT OF LEAKS OR FISTULAS POST BARIATIC SURGERY: A SYSTEMATIC REVIEW AND META-ANALYSIS

Authors  Vera Intrígo J.M.1, Hinostroza Duenás F.X.2, Flaksbaum Moll C.2, Shinin Merchan M.F.2, Do Monte Junior E.S.2, Mendonça Proença I.2, Marques Bernardo W.2, Hourneaux De Moura D.T.2, Hourneaux De Moura E.G.2

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Aims  The aim of this study is to perform a systematic review and meta-analysis to investigate the efficacy and safety of EVT in the treatment of leaks and fistulas after bariatric surgery.

Methods  Searches were performed on MEDLINE, EMBASE, Central Cochrane, Latin American and Caribbean Health (LILACS), and gray literature, as well as a manual search to identify studies regarding EVT in the treatment of leaks and fistulas after bariatric surgery. Evaluated outcomes include duration of EVT (days), interval between vacuum sponge replacements, number of sessions required during EVT, length of stay during EVT, overall closure rate and adverse events.

Results  Five studies with a total of 55 patients were included. The overall closure success rate was 84.2 % (71.9 % LL – 91.8 % UL; P = 0.000). Adverse events included development of esophageal fistula requiring 5.8 endoscopy sessions on average during EVT (4.46 LL – 7.19 UL; P = 0.000); mean interval between vacuum sponge replacements was 4.04 days (3.81 LL – 4.26 UL; P = 0.000); requiring 5.8 endoscopy sessions on average during EVT (4.46 LL – 7.19 UL; P = 0.000); mean length of hospital stay during EVT was 40.2 days (25.1 LL – 55.4 UL; P = 0.000).

Conclusions  Endoscopic vacuum therapy appears to be successful on closing post-bariatric transmural defects, presenting a low rate of adverse events, short duration of treatment and no mortality directly associated to the procedure.

OP145  FIST EXCLUSIVE ENDOSCOPIC BYPASS (EEBP) IN PORCINE MODEL, INCLUDING LUMIN SELECTION AND DUODENAL EXCLUSION: VALIDATION OF FEASIBILITY, REPRODUCIBILITY AND CLINICAL EFFECT (WITH VIDEO)

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DOI 10.1055/s-0042-1744708

Aims  We developed the first exclusively endoscopic bypass (EEBP). The aim was to validate the feasibility and safety of the procedure, and to evaluate the effect on growth curve.

Methods  The experiment was conducted between 2019 and 2021. Four devices were developed to perform EEBP, including a gastrojejunostomy (GJA) with bypassed loop length control (150cm from pylorus) and duodenal exclusion: a modified lumen apposing stent (GJ-LAMS), an atrumatic forceps, a duodenal exclusion device (DED) and a graduated luminal catheter for loop tracking. The procedures were performed in growing Landrace/Large-White pigs with a dual channel endoscope under CO2. The first step was the GJA, followed by DED placement 2 weeks later. The follow-up was 9 months.

Results  Six pigs (mean initial weight 26.1 ± 2.7 kg) were included. The EEBP technical success rate was 100 % without adverse events. In follow-up, the GJ-LAMS migrated in 3 pigs, without closure of the anastomosis, and were replaced. The DED migrated in 3 pigs. All stents could be removed. At autopsy, anastomoses diameters were 12 to 20mm, the excluded limb length ranged from 100 cm to 240 cm. The anastomoses healed, without evidence of fistula. One animal died 4 days before the end of follow-up, of undetermined cause. The mean weight was 45.6 ± 12.3 kg at 38 weeks (average gain: 19.1 ± 11.3 kg), which was significantly lower than expected growth curves for this breed (100%).

Conclusions  This is the first study demonstrating the technical feasibility and reproducibility of an EEBP showing a break in the weight curve in growing animals.
Results

Twenty-three patients were enrolled. Median age was 64 and male was 69.6%. Median tumor size was 11 mm (range: 6 – 17). Most common location was antrum (65.2%). Technical success was achieved at 91.3%. Complete resection was performed without complications. Immediate bleeding of lesions, but if the water is not well filled, it is converted to the modified method, and if both cases are not available, it is classified as a technical failure.

Conclusions

UEMR is efficacious for the treatment of small to intermediate sized gastric neoplasms, but further trials are needed.

Method

The German ESD registry study is a prospective, multicenter trial. Management and evaluation of collected data is done in a central data base at the University Hospital Augsburg. Data were collected anonymously via a retrospective case record form (eCRF).

Results

From the 1st of January 2017 to 31st December 2020, 22 centers included 1884 ESDs, of which 6 centers performed 20 duodenal ESDs. In 11 cases (5.5%) an en bloc resection was achieved, in 9 cases a hybrid ESD (45.0%). Histopathological assessment showed eight adenoma with HGIEN and four with LGIEN, two NET, two heterotopic pancreatic lesions, one hamartoma, one lipoma, one case of hyperplastic tissue and one lesion was not histopathologically classified.

An overall en-bloc resection rate of 65.0% (13/20) was achieved. The R0 resection rate was 55.0% (11/20) and the curative resection rate of 50.0% (10/20) respectively. Complications occurred in 4 out of 20 cases (20.0%). Three delayed bleedings, one requiring blood transfusion, were managed endoscopically. One intraprocedural perforation was documented managed endoscopically as well.

Conclusions

Duodenal ESD remains a challenge even for endoscopists with high ESD expertise. Still, there is much room for improvement, not only when it comes R0-resection rate and curative resection, also that concerns the selection of lesions.

OP150V

ENDOSCOPIC SUBMUCOSAL DISSECTION FOR THE TREATMENT OF A (GIANT) BALL VALVE SYNDROME

Authors

Dias E.1, Morais R.1, Marques M.1, Santos-Antunes J.1, Garrido I.1, Macedo G.1

Institute

1 Centro Hospitalar de São João, Porto, Portugal


An 82 year-old female performed upper digestive endoscopy for diagnostic work-up of iron-deficiency anemia, which revealed a giant pedunculated gastric polyp obstructing the pylorus with extension to the second part of the duodenum. Biopsies were consistent with tubular adenoma with high-grade dysplasia. After multidisciplinary discussion, endoscopic submucosal dissection was performed and the lesion was successfully resected en-bloc without adverse events. Histopathological analysis of the specimen confirmed complete curative resection. This case highlights the expanding role of endoscopic submucosal dissection, which allowed a careful, controlled en-bloc resection of a giant gastric adenomatous polyp producing ball-valve syndrome.

OP152

USEFULNESS OF THE MODIFIED ROCKALL INDEX TO PREDICT ADVERSE EVENTS IN UPPER GASTROINTESTINAL BLEEDING DUE TO PEPTIC ULCER

Authors

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Institute

1 Consorci Sanitari Parc Taulí, Gastroenterology, Sabadell, Spain


Aims

The main prognostic indices for the study of upper gastrointestinal bleeding (UGB) have as a common variable the value of haemoglobin. As the Rockall Index -RockMod-) can predict adverse events to UGB due to peptic ulcer and compare the RockMod with 2 other forecast index: Glasgow-Blachford and Rockall.

Methods

Prospective uncenter study conducted for 5 years. Patients were defined by: 1) Presence of hematemesis, maelenas, hematochezia; 2) Confirmed by EGD<24 h after the onset of bleeding. The adverse outcomes considered were: Hemorrhagic recurrence, Red blood cell transfusion, Endoscopic treatment, Clinical intervention (transfusion, endoscopic treatment, embolization and/or surgery), Mortality. The AUROC and its IC95% were cal-

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data is shown in Table 1. When comparing the ROC curves, we calculated for the RockMod index and compared for each adverse outcome with the other forecast index.

**Results** A total of 230 patients were identified consecutively. Observational data is shown in Table 1. When comparing the ROC curves, we find no differences between the 3 indices for recurrence and mortality. RockMod was better than the Rockall index for predicting transfusion and so was GBS. Regarding clinical intervention and endoscopic treatment, RockMod was the same as the Rockall index and better than GBS. All prognostic indices were more accurate in determining the need for transfusion than in the rest of the results (Figure 1).

Conclusions The RockMod index is better at predicting transfusion than the Rockall, and equivalent to GBS. They are similar for the rest of the results.

#### Table 1

<table>
<thead>
<tr>
<th>Mean age (years)</th>
<th>Sex: men</th>
<th>152/230 (51%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean ± SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haemoglobin (g/dL)</td>
<td>9.5 (± 2.4)</td>
<td>Transfusion 101/230 (43.9%)</td>
</tr>
<tr>
<td>Gastric ulcer</td>
<td>93/230 (40.4%)</td>
<td>Mortality at 30 days 7/230 (3%)</td>
</tr>
<tr>
<td>Forrest</td>
<td></td>
<td>Recurrence 26/230 (11.3%)</td>
</tr>
<tr>
<td>I</td>
<td>51/230 (22.2%)</td>
<td></td>
</tr>
<tr>
<td>IIa</td>
<td>59/230 (22.1%)</td>
<td></td>
</tr>
<tr>
<td>IIb</td>
<td>3/230 (13%)</td>
<td></td>
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<tr>
<td>IIc</td>
<td>36/230 (15.7%)</td>
<td></td>
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<tr>
<td>III</td>
<td>54/230 (23.5%)</td>
<td></td>
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<tr>
<td>Treatment</td>
<td>Endoscopic 140/230 (60.9%)</td>
<td></td>
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<tr>
<td>Vascular radiology/embolization</td>
<td>9/230 (3.9%)</td>
<td></td>
</tr>
<tr>
<td>Surgery</td>
<td>0/230 (0%)</td>
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</tr>
</tbody>
</table>

Conclusions The RockMod index is better at predicting transfusion than the Rockall, and equivalent to GBS. They are similar for the rest of the results.
OP155  MOTORIZED SPIRAL ENTEROSCOPY IN PATIENTS WITH PRIOR ABDOMINAL SURGERY: A MULTICENTER OBSERVATIONAL STUDY

Authors  Giordano A.1, Compañy L.2, Ruiz-Gómez A.A.2, Urpi-Ferreruela M.3, Fernández-Gil P.5, Alonso-Lázaro N.1, Sola Vera J.5, Aicart M.1, Parejo Carbonell S.1, Carretero C.6, Prieto C.6, Escapa M.1, Pons V.1, González-Suárez B.1

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Aims  Motorized Spiral Enteroscopy (MSE) reduces procedure time and increases insertion depth into the small bowel, however there is scarce evidence on factors affecting MSE efficacy. This multicenter study aimed at evaluating diagnostic yield and adverse events of MSE in patients with prior abdominal surgery.

Methods  Data of patients undergoing MSE were extracted from our national multicenter database of MSE. Data analyzed were demographic characteristics, indication for procedure, exploration time, depth of maximum insertion, technical success, diagnostic and interventional yield and adverse events.

Results  Two-hundred thirteen enteroscopies, 139 antegrade (65.3%) and 74 retrograde (34.7%), were included, corresponding to 194 patients (111 males, mean age 64 years). Eighty-four patients (43.3%) had prior abdominal surgery. Technical success was 94.2% (131/139) for antegrade and 91.9% (68/74) for retrograde route. Diagnostic yield for antegrade and retrograde route was 78.4% and 63.5%, respectively. The median depth of maximum insertion was 362 cm (IQR 236-517 cm) for antegrade and 102 cm (IQR 33-225 cm) for retrograde enteroscopy. Total exploration rate was 12.4% (18 complete and 6 combined approach enteroscopies). Interventional yield was 71.8%. In patients with prior abdominal surgery no differences were detected as per diagnostic yield (72 vs 74.5%, p = 0.672) and small bowel insertion time (37 vs 35 min, p = 0.702). The overall adverse event rate was 8.9% (SAE 1.9%), with no differences related to prior abdominal surgery (p = 0.762).

Conclusions  MSE is effective in patients with prior abdominal surgery. In this cohort, adverse event rate was similar to previously published series.

OP156V  DISCONNECTION OF SPIRAL OVERTUBE: AN INFREQUENT COMPLICATION OF MOTORIZED SPIRAL ENTEROSCOPY

Authors  Muñoz Pérez R.1, Compañy Catalá L.1, Ruiz Gómez F.1, Rodríguez Angulo A.1, Guilabert Sanz L.1, Álvarez Arroyo E.1, Medina Prado L.1, Martínez Sempere J.1, Martínez Moreno B.1, Mangas Sanjuán C.1, Aparicio Tormo J.R.1

Institute  1 Alicante General University Hospital, Gastroenterology Department, Alicante, Spain


A 91-year-old man with suspected small bowel lymphoma underwent antegrade motorized spiral enteroscopy, identifying a stenosing lesion with features of lymphoma in jejunum. Biopsies and tattooing proximal to the lesion were performed. During withdrawal we realized that the overtube was embedded in oesophagus. With an inflated 20mm dilatation balloon partial removal was achieved, being completely removed with Magill forceps. An extensive laceration in oesophagus was treated with hemoclips with good results.

This is one of the first cases of disconnection of spiral overtube described in literature. It can be solved with simple endoscopic techniques, without resorting to more aggressive measures.

OP157V  RESCUE ENTERO-ENTEROSTOMY WITH A SELF-EXPANDABLE METAL STENT (SEMS) AFTER A FAILED DEPLOYMENT OF A LUMEN-APPOSING METAL STENT (LAMS): IDENTIFY THE DIRECTION OF BOWEL TRANSIT IS KEY!

Authors  Busto V.1, Bravo S.1, Ganuza M.1, Salmón P.1, Arrubla A.1, Rodríguez J.1, Arosté I.1, Liribarri L.1, Estremera F.1, Vila JJ.1

Institute  1 University Hospital of Navarre, Gastroenterology, Pamplona, Spain


A 49-year-old woman with acute pancreatitis requiring several abdominal surgeries presented with an ileo-cutaneous fistula. A pediatric gastroscope was inserted through the fistula to the afferent loop (AL). An echoendoscope was inserted through the ileostomy identifying the AL. EUS-guided entero-enteroscopy with a lumen-apposing-metallic-stent (LAMS) failed due to loop stiffness with migration of the LAMS to the peritoneal cavity. The LAMS was removed with an endoscope and a rescue entero-enteroscopy with a SEMS from the ileal to the AL was performed to bypass and close the fistula. Entero-enteroscopies with SEMS must preserve the bowel transit to avoid secondary bowel occlusion.

OP158V  OVERLAP SYNDROME OF JUVENILE POLYSIS SYNDROME AND HEREDITARY HEMORRHAGIC TELANGIECTASIA. TWO DISEASES ONE MUTATION

Authors  Zamora-Nava L.E.1, Sanchez-Chavez X.1, Grajales-Figueroa G.1, Saul-Perez A.1, Ramirez-Luna M.A.1

Institute  1 Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Endoscopy Department, Mexico City, Mexico


A 49-yo woman, with history of Osler Weber Rendu syndrome underwent total colectomy due to lower GI bleeding secondary to polypoid lesions, histopathology reported Juvenile Polyposis Syndrome. Videocapsule endoscopy showed vascular lesions and polyps in the proximal jejunum. Antegrade double-balloon enteroscopy was performed, angiectasias were treated with APC and three hamartomatous lesions were resected successfully.

Cholangioscopy – a revival  14:00–15:00  Friday, 29 April 2022  Club H

OP159V  DEEP LEARNING AND DIGITAL SINGLE-OPERATOR CHOLANGIOSCOPY (DSOC): AUTOMATIC DIAGNOSIS OF MALIGNANCY STATUS AND MORPHOLOGICAL CHARACTERIZATION OF BILIARY STRICATURES

Authors  Afonso J.R.1, Mascarenhas M.1, Ribeiro T.1, Ferreira J.2, Vilas-Boas F.1, Pereira P.1, Macedo G.1

Institutes  1 Centro Hospitalar Universitário de S. João, Gastroenterology, Porto, Portugal; 2 Faculdade de Engenharia da Universidade do Porto, Engenharia, Porto, Portugal


Aims  Patients with indeterminate biliary strictures (BS) constitute a significant diagnostic challenge. DSOC has enabled morphologic characterization and guided biopsies. However, the diagnostic yield of DSOC remains suboptimal, and the characterization of these lesions has significant interobserver variability.

With this work, we intend to develop a Convolutional Neural Network (CNN), for detection of malignant BS in DSOC images and identification of three mor-
OP160  DIGITAL SINGLE-OPERATOR CHOLANGIOSCOPY IN DIAGNOSTIC AND THERAPEUTIC BILIOPANCREATIC DISEASES: A PROSPECTIVE, MULTICENTER STUDY


Institutes 1 IRCCS – Humanitas Research Hospital, Division of Gastroenterology and Digestive Endoscopy, Department of Gastroenterology, Rozzano, Italy; 2 Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Università Cattolica del Sacro Cuore, Digestive Endoscopy Unit, Roma, Italy; 3 AOU Città della Salute e della Scienza, University of Turin, Torino, Italy; 4 Ospedali Riuniti, Ancona, Ancona, Italy; 5 Polo G. Fucito Hospital, Mercato San Severino, Italy; 6 ARNAS Cívico – Di Cristina – Benfratelli Hospital, Palermo, Italy; 7 Azienda USL Modena, Carpi, Carpi, Italy; 8 Vita-Salute San Raffaele University, Milano, Italy; 9 Cremona Hospital, Cremona, Italy; 10 Azienda Ospedaliero Universitaria di Modena, Modena, Italy; 11 Santa Chiara Hospital, Trento, Italy; 12 Azienda Ospedaliero-Università Maggiore della Carità, Novara, Italy; 13 ISMETT, Palermo, Italy; 14 Azienda Ospedaliero Università Sassari, Sassari, Italy; 15 Ospedale Civile, AUSL Piacenza, Piacenza, Italy; 16 Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico, Milano, Italy; 17 San Giovanni Battista Hospital, Azienda USL Umbria 2, Foligno, Italy; 18 AOU Cagliari, Cagliari, Italy; 19 Università Politecnica delle Marche, Ancona, Italy; 20 Humanitas University, Pieve Emanuele – Milano, Italy; 21 University of Rome “Tor Vergata”, Roma, Italy

Aims Direct Cholangioscopy is a relatively new intervention that has been limited to use in Specialist centres. It has proved helpful for endoscopic management of gallstones and bile duct strictures. We present our experience of introducing SpyGlass-Cholangioscopy to our District General Hospital (DGH). We aim to assess applicability, feasibility and safety of SpyGlass-Cholangioscopy in a DGH setting in England, including a cost analysis compared with surgical bile duct exploration (an alternative for gallstones).

Methods Prospective data was collected for all ERCP patients with SpyGlass-Cholangioscopy between September 2018 and November 2021 using ERCP reports, discharge letters and medical records (number of ERCPs, complications, 30-day mortality, stone clearance at first SpyGlass, SpyBite sensitivity).

Results Eighteen Italian tertiary referral centers participated in the study. D-SOC was performed in 369 patients (201(54,5 %) diagnostic and 168(45,5 %) therapeutic). Overall, procedural success rate was achieved in 360 (97,6 %) patients.

The sensitivity, specificity, PPV, NPV and accuracy in biliary strictures were: 88,5 %, 77,3 %, 83,3 %, 84,1 % and 70 % for SpyBite biopsy, respectively. For biliary stones management, complete duct clearance was obtained in 92,1 % patients of whom 82,1 % in a single session. Overall, adverse events (AEs) occurred in 37(10 %) cases, for which choledolithiasis was the most common(14, 3,8 %). The grade of AEs was mild or moderate for all the cases, except one which was fatal.

Conclusions D-SOC is effective for both diagnostic and therapeutic indications. Most of the AEs were minor and managed conservatively, even though a fatal event has happened in our series that is not negligible and should be considered before using D-SOC for the management of patients with complex bilio-pancreatic diseases.
Introduction of SpyGlass-Cholangioscopy to DGH setting was successful, safe, cost-efficient and avoided need for referral to specialist centres. No patient required SpyGlass-ERCP referral to specialist centre. The nominal NHS cost of laparoscopic bile duct exploration for CBD-stone removal is £6,208 (plus bed-costs £1,775 per day) compared with £959 for day-case ERCP (plus average SpyScope and electrohydraulic lithotripsy costs £2,300).

Results

28 patients (10 Male, 18 Female) had 32 total procedures and collectively a total 47 previous ERCPs (mean 1.68). 11 patients required repeat ERCP; 4 with SpyGlass, 10 stent removals (8/10 pigtail-stents safe-guarding only, no stones left), 1 further stone removal (SpyGlass). 1 review of findings (resolved severe biliopathy). 1 patient had cholangitis (5.5%), with no other ERCP-related complications. 30-day mortality rate was 0%, reflecting a predominantly outpatient cohort. No patient required SpyGlass-ERCP referral to specialist centre. The nominal NHS cost of laparoscopic bile duct exploration for CBD-stone removal is £6,208 (plus bed-costs £1,775 per day) compared with £959 for day-case ERCP (plus average SpyScope and electrohydraulic lithotripsy costs £2,300).

Conclusions Introduction of SpyGlass-Cholangioscopy to DGH setting was successful, safe, cost-efficient and avoided need for referral to specialist centres.

Table 1

<table>
<thead>
<tr>
<th>Indication</th>
<th>Patient number</th>
<th>Successful therapy at first procedure</th>
<th>Complications</th>
<th>SpyBite sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bile Duct Stone</td>
<td>18</td>
<td>16</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hilar Biliary Stricture</td>
<td>7</td>
<td>7</td>
<td>1 (Cholangitis) 80% (4/5)</td>
<td></td>
</tr>
<tr>
<td>Biliopathy</td>
<td>2</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Common Bile Duct Stricture</td>
<td>1</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

OP163V PRSS1 HEREDITARY CHRONIC PANCREATITIS: ERCP WITH PANCREATOSCOPY AND PANCREATIC LITHOTRIPSY

Authors Cravero F.1, Gesuldo M.1, Sacco M.1, Rizzi F.1, D’Amico E.1, Staiano M.T.1, De Angelis C.G.1 Institute 1 AOU Città della Salute e della Scienza, University of Turin, Division of Gastroenterology, Endoscopy Unit, Turin, Italy DOI 10.1055/s-0042-1744726

36 year old man with PRSS1 hereditary pancreatitis complaining severe abdominal pain and presenting dilated main pancreatic duct with a big stone (14 mm) at genu. Pain control was achieved by pancreatic drainage with plastic stent. The next year pancreatic stent was meant to be replaced, but stent went broken and retained during extraction. Our goal was pancreatic stone fragmentation and drainage, retained pancreatic stent removal and insertion of new pancreatic stent. Peroral pancreatoscopy was performed using cholangioscope on guidewire during ERCP. The big stone was fragmented with electrohydraulic lithotripsy device and finally impacted stent could be removed.

OP164V IMPACT OF PERORAL-CHOLANGIOSCOPY TO PLAN SURGERY FOR PROTRUDING BILIARY LESIONS: REPORT OF THREE CASES

Authors Milluzzo S.M.1, Tringali A.1, Peri V.1, Ettorre G.M.2, Laurenzi A.2, Ardito F.1, Giuliani F.1, Costamagna G.1
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Protruding biliary lesions are uncommon findings during radiological or endoscopic evaluation of biliary tree. Clinical presentation can mimic neoplastic obstruction or stones, arising with abdominal pain, jaundice, fever, itching, and cholestasis. They were previously discovered as incidental findings during surgery. Nowadays, they can be detected and characterized by cholangioscopy, which allows a direct vision of the biliary tree for targeted biopsies and provides a precise definition of anatomical extension within the bile duct for surgical planning. In this case series, the role of cholangioscopy for the management of 3 protruding biliary lesions will be reported.

OP165 G-POEM, A HIGHLY SAFE TECHNIQUE: EVALUATION OF THE SAFETY PROFILE OF GASRIC PERORAL ENDOSCOPIC MYOTOMY (GPOEM) BY A FRENCH MULTICENTER STUDY

Authors Gonzalez J.-M.1, Baret F.1, Jacques J.2, Albouys J.2, Vanbiervliet G.3, Debourdeau A.4, Vitton V.1, Barthet M.1
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Aims G-POEM is promising for treating refractory gastroparesis. To date, no study specifically evaluated its tolerance. Thus, the aim was to establish a safety profile, focusing on serious adverse events (AEs), and possibly to identify predictive factors of occurrence.
Methods This was a multicenter retrospective observational study conducted in 5 French expert centers. All patients who had a G-POEM between 2015 and 2021 were identified and included for analysis. The G-POEM procedure followed fully standardized steps. AEs were classified into 3 phases: per endoscopic, early postoperative, and late postoperative (up to 1 month). Their severity was assessed using the Dindo-Clavien classification and ASGE lexicon, and management was described.

Results In total, 217 patients were included (81 men and 136 women, mean age 52 ± 17 years). The average procedural time was 44 ± 14 minutes (12-78). The mean postoperative hospital stay was 3.7 ± 2.3 days. The severe AEs, classified as Clavien-Dindo 3, was 0.4%; one delayed bleeding requiring transfusion and endoscopic revision. There were no AEs classified as Clavien-Dindo 4 and 5, i.e., no deaths or patients admitted to intensive care. This rate was identical with ASGE lexicon. The mucosotomy and capnoperitoneum rates were 3.7% and 1.8%, respectively, without clinical consequences. A majority of patients (81.5%) did not present any AEs, even minor. No predictive factor could be identified.

Conclusions Our study confirms the safety of G-POEM with less than 0.5% of serious AEs, medically managed. This result, associated to an efficacy rate around 65% at 2 years, constitutes a good benefit-risk ratio.

OP166 G-POEM IN REFRACTORY GASTROPARESIS, FOR WHOM? LONG TERM OUTCOMES AND PREDICTIVE SCORE TO IMPROVE PATIENT SELECTION

Authors Labonde A.1, Lades G.1, Debourdeau A.2, Ragi O.3, Lehmann L.4, Vitton V.5, Barthet M.5, Legros R.5, Alboys J.5, Geyl S.1, Loustaud-Ratti V.1, Monteil J.1, Gonzalez S.5, Gonzalez J.M.5, Jacques J.1

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Aims Limited data exist concerning the long-term efficiency of G-POEM as a treatment of refractory gastroparesis. This study evaluates the 3-year results of G-POEM in patients with refractory gastroparesis, then investigated predictive factors for procedure success or failure.

Methods This was a prospective multicenter study of all G-POEM operations performed in two expert French centers for refractory gastroparesis with at least 3 years of follow-up (n = 46). GCSI was recorded every 6 months during follow-up.

Results Clinical success was 65.2% at 36 months. Median GCSI decreased from 3.33 to 1.80 (p < 0.0001) with improvement in all subscales. We create a predictive score concerning G-POEM success or failure to which points were assigned as follows:

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Score assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea subscale &lt; 2</td>
<td>+1</td>
</tr>
<tr>
<td>Satiety subscale &gt; 4</td>
<td>+1</td>
</tr>
<tr>
<td>Bloating subscale &gt; 3.5</td>
<td>+1</td>
</tr>
<tr>
<td>Retention at 4 hours on scintigraphy &gt; 50%</td>
<td>+1</td>
</tr>
</tbody>
</table>

A threshold of 2 was identified by receiver operating characteristic curve analysis with an area under the curve of 0.825 that predicted clinical success with 93.3% sensitivity, 56.3% specificity, 80% PPV, 81.8% NPV and 80.4% accuracy. Patients with a score ≥ 2 were significantly more likely to be responders at 3 years than were patients with a score < 2 (80% and 18% respectively; p = 0.0004).

Conclusions The clinical success of G-POEM for refractory gastroparesis was 65.2% at 36 months. Our predictive score offers an easy tool that should be confirmed in other studies.

OP167 GASTRIC PERORAL ENDOSCOPIC MYOTOMY (G-POEM) FOR REFRACTORY GASTROPARESIS: 12-MONTH FOLLOW-UP RESULTS FROM AN ITALIAN TERTIARY ACADEMIC HOSPITAL

Authors Barchi A.1, Mandarino F.V.1, Azzolini F.1, Esposito D.1, Biamonte P.1, Fant L.1, Viale E.1, Danese S.1

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Aims The aim of this prospective observational study is to evaluate the efficacy of the G-POEM in 12 months-follow up in patients with gastroparesis refractory to medical therapy.

Methods Eighteen patients with refractory gastroparesis, who consecutively underwent G-POEM from March 2019 to October 2020 at San Raffaele Hospital (Milan, Italy), were enrolled. Primary outcome was clinical success, defined as an improvement ≥ 50% in the average Gastroparesis Cardinal Symptom Index (GCSI) score at 12 months, compared to baseline. Secondary outcomes were technical success, changes at gastric emptying study (GES) at 3 months, and to identify any predictive factors of clinical success.

Results Clinical success was 38.89% at 3 months, 62.5% at 6 months and 71.4% after 1 year. Average GCSI score reduced significantly: 2.64 ± 0.92 at baseline, 1.42 ± 0.78 at 3 months (p < 0.0001), 1.14 ± 0.82 at 6 months (p < 0.0001) and 1.19 ± 0.78 at one year (p < 0.0001) after GPOEM. Technical success was achieved in all procedures (100%). One intra-procedural pneumomediastinum, 2 mucosal burns and 1 perforation were observed. At 3 months-GES, gastric emptying half time and percent 2-hours gastric retention reduced modestly (p = 0.22 and p = 0.12). Univariate regression analysis showed post-surgical gastroparesis (p = 0.05), baseline nausea/vomiting GCSI score (p = 0.03) and baseline fullness/early satiety GCSI score (p = 0.02) had significant association with clinical success at 12 months.

Conclusions G-POEM may be an effective procedure for patients with refractory gastroparesis, although the correlation between symptoms and gastric motility remains to be understood.

OP168V CLIP-ANCHORING TECHNIQUE: A FAST, CHEAP, AND EFFICIENT WAY TO CLOSE A G-POEM TUNNEL

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We report the case of a patient suffering from severe diabetic gastroparesis. We performed a G-POEM. Immediately after making the tunnel entrance, the same current was used to make three small incisions on each side of the tunnel entrance to allow clip anchoring at the end of the procedure. The rest of the procedure was a standard G-POEM. At the end of the procedure, the previously made incisions were used to place three clips to ease the tunnel closure (clip anchoring technique). The overall procedure lasted 25 minutes and the tunnel closing lasted 3 minutes.
OP169  OUTCOMES OF COMBINED MANAGEMENT BILIARY AND GASTRIC OUTLET OBSTRUCTION (CAB-ROIET STUDY): A MULTICENTRE RETROSPECTIVE ANALYSIS

Authors   Vanella G.1, Bronswijk M.2-3, van Wannooij R.L.4, Dell’Anna G.1, Laleman W.2, van Malenstein H.2, Voermans R.P.5, Fockens P.4, van der Merwe S.7, Arcidiacono P.G.1

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Aims Combined Biliary (BO) and Gastric Outlet Obstruction (GOO) is a challenging scenario, even in the era of therapeutic EUS, as GOO might reduce the clinical success of EUS-guided biliary drainage. Little is known on post-procedural dysfunction-free survival (DFS) of different combinations used to treat double obstruction (DO).

Methods All consecutive patients with DO treated between 2016-2021 in 3 tertiary academic centres were eligible if between-procedures interval <180 days and post-procedural follow-up (FU) >30 days. Multiple combinations were allowed involving duodenal stenting [DS], EUS-guided gastroenterostomy [EUS-GE], hepatogastronomy [EUS-HGS], choledochoduodenostomy [EUS-CDS], transpapillary stenting [TPS]. Primary outcome was any recurrent BO/DO needing reintervention. DFS probability was estimated by Kaplan-Meier analysis.

Results Ninety-three patients with DO were eligible (male 46%; median age 67 [60-76]; pancreatic cancer 73%), resulting in 103 procedure combinations. Combinations with DS experienced more primary failure than those using EUS-GE (OR = 3.2 [0.94-11.1]). Different combinations showed significantly different risk of recurrence during FU (p = 0.009). EUS-GE + HG combination showed the longest estimated DFS, while DS + EUS-CD and DS overlying TPS the shortest, with a recurrence HR of 5.1 [1.9-14.1] and 2.6 [1.2-5.9] respectively.

Conclusions Despite the limitations of an underpowered inclusion per each combination, this study suggests that combinations including DS versus EUS-GE are more prone to dysfunction, while introducing new-to-be-proven trends. EUS-CD might have reduced efficacy and patency in the context of GOO, either above a DS or with GE in place. GE + HG in this setting seems promising. Combined obstruction deserves specific prospective evaluation beyond the expected results of single procedures.

OP170V  AN UNUSUAL CAUSE OF ABDOMINAL OBSTRUCTION IN A 10-YEAR-OLD BOY SUCCESSFULLY TREATED BY ENDOSCOPY

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We report the case of an upper GI obstruction due to an acute bleeding within a duodenal duplication cyst. We performed an endoscopic marsupialization of the cyst. Endoscopic ultrasound was performed: the cyst measured 7.4x4.4 cm with both solid and liquid components. It was punctured to put a guide wire inside. A colonscope was then with a hood to perform an incision on top of the cyst, following the guidewire. After penetrating inside, a snare was used to remove the remaining clots. A double pigtail stent was placed. The patient was able to eat the following day.

Colonoscopy screening and detection rates 15:30–16:30 Friday, 29 April 2022 Club E

OP171  TEXTURE AND COLOR ENHANCING IMAGING (TXI) INCREASES ADENOMA DETECTION RATE IN COLONOSCOPY: INTERIM ANALYSIS OF A RANDOMIZED CONTROLLED TRIAL

Authors   Antonelli G.1,2, Bevivino G.1, Ebibgo A.3, Pecere S.4, Cerreati F.1, Akizue N.1, Di Fonzo M.1, Coppola M.1, Barbaro F.4, Caruso A.1, Okimoto K.5, Antenucci C.1, Matsumura T.5, Zerboni G.1, Grossi C.1, Meinikheim M.1, Papparella G.4, Spada C.4, Costamagna G.4, Messmann H.1, Hassan C.6, Iacopini F.1

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Aims Virtual chromoendoscopy techniques to enhance imaging during colonoscopy have shown controversial results in increasing Adenoma Detection Rate (ADR). A new imaging modality, Texture and Color Enhancing Imaging (TXI), was recently proposed as a substitute to standard white light (WLI) colonoscopy. We performed an interim analysis of an ongoing multicenter, randomized trial to assess the efficacy of TXI in detection of colorectal neoplasia.

Methods We enrolled consecutive patients >40 years old undergoing screening, surveillance or diagnostic colonoscopies at 4 centers (Italy, Germany, Japan) from September through December 2021. Patients were randomly assigned (1:1) to groups undergoing colonoscopies with TXI or WLI (controls). The primary outcome was adenoma detection rate (ADR, the percentage of patients with at least 1 histologically proven adenoma or carcinoma). Secondary outcomes were adenomas detected per colonoscopy (APC), and withdrawal time. Odds Ratios (OR), adjusted for age, sex and colonoscopy indication were calculated.

Results We currently enrolled 536 patients (9 expert endoscopists) out of a total expected of 800 (age: 62.9 ± 9.08 years old; gender M/F: 330/268). ADR was statistically significantly higher in the TXI group (153/268, 57.1 %) than in the WLI group (113/268, 42.2 %; adjusted OR: 2.0; 95 %CI:1.39 to 1.89), as well as APC (1.53; 95 %CI:1.29-1.71 vs 1.04; 95 %CI:1.08-1.22). No statistically significant difference in withdrawal time (TXI: 7.76 ± 2.09 minutes vs WLI: 8.07 ± 1.78; p = ns) was observed.

Conclusions In an interim analysis of a multicenter, randomized trial, we found that the new TXI imaging modality increases ADR and adenomas detected per colonoscopy.

OP172  POLYP SIZE BUT NOT HISTOLOGIC TYPE IS ASSOCIATED WITH RISK FOR COLORECTAL CANCER MORTALITY IN A LARGE SCREENING COHORT

Authors   Zessner-Spitzenberg J.1,2, Waldmann E.1,2, Jericka L.1,2, Rockenbauer L-M.1,2, Hinterberger A.1,2, Mächler B.1,2, Trauner M.1, Ferlitsch M.1,2,
OP173 CT-COLONOGRAPHY IN FECAL IMMUNOCHEMICAL TEST POSITIVE PATIENTS IN A COLORECTAL CANCER SCREENING PROGRAM – YIELD AND INCIDENCE OF INTERVAL CARCINOMAS

Authors
Moen S.¹, Marijnissen F.E.¹, Terhaar S.², de Vos tot Nederveen Cappel W.H.¹, Spanier M.B.W.², Huismann J.F.², Dekker E.³, Stoker J.⁴, Kuipers E.J.¹, Theomer M.G.J.², Spaander M.C.W.¹

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DOI
10.1055/s-0042-1744736

Aims
In the Dutch colorectal cancer (CRC) screening program, fecal immunochemical test (FIT) positive screeners are offered CT-colonography (CTC) when colonoscopy is not possible due to contraindications or patient preferences. Literature on CTC screening in FIT-positives is scarce and incidence of interval carcinomas for this population is yet unknown.

Methods
In this retrospective study, we assessed yield and incidence of interval carcinomas in FIT-positive screeners who directly underwent CTC between 2014-2019 in the Dutch CRC screening program. Centers with >50 CTC’s were approached for data collection. Data were linked with the National Cancer Registry to identify interval carcinomas.

Results
Out of 2983 FIT-positive screeners (mean age 68.2 years) scheduled for CTC, 2794 (93.7 %) underwent CTC. Most advanced lesion detected by CTC was CRC in 160 (5.7 %), polyps >10mm in 533 (19.1 %) and polyps <10mm in 478 (17.1 %) screeners. A total of 987 (35.3 %) additional endoscopies were performed. Histologically confirmed advanced neoplasia was present in 587 (21 %) screeners. Most advanced histologically confirmed lesion was CRC in 109 (3.9 %) and advanced adenoma in 478 (17.1 %) screeners. Two CTC detected CRC’s were confirmed by radiological imaging and four CTC detected CRC’s did not receive further examination. A total of 16 (0.65 %) interval carcinomas occurred after a median follow-up of 49 months (range 11-92).

Conclusions
CTC detected advanced neoplasia in only 21 % of FIT-positive screeners and a substantial proportion of post-CTC interval carcinomas was found. This underlines the need for a structured quality assurance program for CTC’s performed in FIT-positive screeners.

OP174 COLORECTAL CANCER SCREENING IN PATIENTS BETWEEN 45-49 YEARS OLD: IS IT WORTHWHILE?

Authors
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DOI
10.1055/s-0042-1744737

Aims
Colorectal cancer (CRC) incidence is rising in young adults and recent US guidelines recommend CRC screening in individuals between 45-49yo. We aim to assess the utility of CRC screening colonoscopy in a younger Portuguese population.

Methods
Retrospective cross-sectional study including average-risk individuals for CRC screening between 45-49yo, who performed a high-quality screening or diagnostic colonoscopy. A control group of average-risk individuals between 50-75yo was included. High-risk polyps (HRP) were defined as polyps >10mm, with tubulovillous histology or high-grade dysplasia.

Results
268 individuals were included, 135 between 45-49yo (47yo, IQR 46-49) and 133 in the control group (62yo, IQR 55-67). There was a significantly higher number of males in the control group (51.9 % vs 34.1 %, p=0.003). The polyp detection rate (PDR) (60.9 % vs 28.1 %, p<0.001) and the adenoma detection rate (ADR) (44.4 % vs 17.0 %, p<0.001) were significantly higher in the group between 50-75yo. There were no significant differences in the number of HRP (27.2 % vs 13.2 %, p=0.09) and mean number of polyps detected per colonoscopy [2.6 (95 %CI 2.0-3.2) vs 2.0 (95 %CI 1.5-2.5), p = 0.12]. The PDR and ADR were still significantly lower in the younger group, even after adjusting for gender (OR 0.28, 95 %CI 0.16-0.47, p=0.001 and OR 0.29, 95% CI 0.16-0.51, p<0.001 respectively). The number needed to screen (NNS) to detect polyps in the younger group was 3 and to detect adenomas was 4.

Conclusions
Although there is a lower PDR and ADR in young individuals, the low NNS suggest that CRC screening could be considered in younger individuals. Further cost-effectiveness analyses are needed.

OP175 DETECTION RATE OF SESSILE SERRATED LESIONS AND ACCURACY OF OPTICAL BIOPSY AS QUALITY INDICATORS

Authors
Gubbiotti A.¹, Spadaccini M.¹, Maselli R.¹, Anderloni A.¹, Carrara S.¹, Gallieri A.¹, Ferrara E.C.¹, Pellegriti G.¹, Fugazza A.¹, Alfaroni L.¹, Da Río L.¹, Migliorisi G.¹, Masoni B.¹, Brandalone L.¹, Bertoli P.¹, Polletti V.¹, Ferretti S.⁵, Polverini D.¹, Marcozzì G.¹, Terrin M.¹, Mastrorocco E.¹, Franchelucci G.¹, Hassan C.¹, Repici A.¹

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DOI
10.1055/s-0042-1744738

Aims
Serrated pathway is thought to account for up to one-third of overall colorectal cancers (CRC) and a plausible cause of interval CRC. There is discordance in detection outcomes both from endoscopist and pathologist perspectives. Our study aims to report the SL detection performances in a large cohort of patients and investigate factors affecting endoscopist performances.

Methods
We conducted a retrospective review of all average-risk patients screening or surveillance colonoscopies from 2019 to 2021 in our centralized
OP176 PREVALENCE AND RISK FACTORS FOR SESSILE SERRATED LESIONS: A PROSPECTIVE STUDY IN A COLORECTAL CANCER SCREENING POPULATION

Authors Bustamante-Balén M.†, Satorres C.†, Lorenzo-Zúñiga V.†, Giner F.†, Alonso-Lázaro N.†, García-Campos M.†, Sánchez-Montes C.†, López-Muñoz P.†, Argüello L.†, Pons-Beltrán V.†

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Aims To determine the prevalence of SSL in a FIT-based CRC screening program and to assess possible risk factors related to SSL development in comparison to adenomas.

Methods All individuals attending a population-based CRC screening program between April 2017 and October 2018 were prospectively included. Every individual answered a questionnaire including age, sex, chronic diseases, toxic habits, familiar history of polyps and CRC, and ASA or AINE consumption. Height, weight, and abdominal perimeter were also recorded. All participant endoscopists followed a structured training program on the detection of SSL. Strict pathological criteria were followed to diagnose SSLs. To minimize inter-observer variability among pathologists, three rounds of serrated lesion diagnosis were performed until getting a kapha > 0.6. Prevalence was calculated as the number of patients with at least one SSL (total number of individuals). A multivariable logistic regression analysis was performed to assess risk factors for SSL. An a priori sample size of 740 individuals for the primary objective was calculated.

Results 750 individuals were included (358 (47.4%) women; median (range) age 61.6 years (50.7–72.1)). We found 2331 lesions (1571 (67.4%) adenomas, 121 (5.2%) SSL; median (SD) size 4 mm (1–50)). Prevalence of SSL and right-sided SSL was 10.3 % and 6.3 % respectively. Risk factors are summarized in Table 1.

Conclusions 1) Prevalence of SSLs in a FIT-based CRC screening program following strict diagnostic criteria is 10.3 %; 2) SSLs and adenomas have different risk factors for development. SSLs may be more related to obesity and less related to toxic habits and familiar risk for CRC.

Table 1

<table>
<thead>
<tr>
<th>SSL</th>
<th>Adjusted OR (95% CI)</th>
<th>Adenoma</th>
<th>Adjusted OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal perimeter &gt; 95 cm</td>
<td>1.97 (1.02–3.77)</td>
<td>Age</td>
<td>1.06 (1.03–1.10)</td>
</tr>
<tr>
<td>Tobacco</td>
<td>2.20 (1.34–3.59)</td>
<td>Alcohol</td>
<td>1.00 (1.00–1.01)</td>
</tr>
<tr>
<td>Familiar history of CRC</td>
<td>4.42 (1.21–16.03)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OP177 IN-VIVO DETECTION AND DIAGNOSIS OF GASTRIC PRENEOPLASTIC LESIONS BY FOURTH-GENERATION ENDOCYTOSCOPY: A PILOT STUDY

Authors Vasapolli R.†, Macke L.†, Koch N.†, Neuhaus L.†, Schina J.†, Neumann J.‡, Mayerle J.‡, Mafferttheiner P.‡, Schulz C.†

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Aims Endocytoscopy (EC) provides ultra-high magnification images and enables in-vivo histologic assessment of the mucosa. Aim of our study was to characterize features related to gastric precancerous lesions (GPL) and to assess diagnostic performances of EC both in antrum and corpus compared to standard histopathology.

Methods 80 gastric areas (36, antrum; 44, corpus) of 25 prospectively recruited patients were analyzed. All endocytoscopies were performed by one expert endoscopist (A) by using an Olympus GIF-H290EC-endocytoscope and double staining technique. Histopathology of target biopsies was used as gold standard. EC diagnosis was made as demonstrated in Figure 1.

Fig. 1
After independent EC-diagnosis 419 high-quality EC-images were selected by endoscopist A and reviewed by 3 endoscopists (B, with minor experience in EC, C and D, with no experience in EC but trained for images assessment), who were blinded to endoscopic findings and histopathology.

Results Gastric areas were histologically classified as shown in Figure 1. The diagnostic performances of EC for GPL detection are summarized in the Table 1. The mean sensitivity, specificity and accuracy for EC diagnosis of GPL (EC2a/2b/2ab + EC3 vs. EC1) were 88%, 93% and 91% among endoscopists A and B and 86%, 68% and 74% among endoscopists C and D, respectively. The interobserver agreement was substantial (κ-value 0.75, p < 0.001) between the two EC experts and fair (κ-value 0.29, p = 0.006) between the two non-expert endoscopists.

Conclusions New-generation EC has a potential to identify GPL with high diagnostic accuracy, high reliability and good reproducibility. Training and experience in performing EC affect substantially the diagnostic performances.

Table 1

<table>
<thead>
<tr>
<th>EC 1</th>
<th>EC 2a</th>
<th>EC 2b</th>
<th>EC 2a/2b/2ab</th>
<th>EC 2 + EC3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endoscopist A:</td>
<td>Sensitivity 98.08% (89.74–99.95); Specificity 96.43% (81.65–99.91); Accuracy 97.97% (91.26–99.70); Positive predictive value 98.08% (88.15–99.71); Negative predictive value 96.43% (79.47–99.47)</td>
<td>Sensitivity 64.29% (35.14–87.24); Specificity 100% (94.56–100.00); Accuracy 93.75% (86.01–97.94); Positive predictive value 100.00%; Negative predictive value 92.96% (86.73–96.38)</td>
<td>Sensitivity 80.00% (63.92–95.46); Specificity 98.18% (90.28–99.95); Accuracy 93.75% (86.01–97.94); Positive predictive value 95.45% (74.93–99.33); Negative predictive value 93.10% (84.60–97.07)</td>
<td>Sensitivity 96.00% (79.65–99.90); Specificity 98.18% (90.28–99.95); Accuracy 97.50% (91.26–99.70); Positive predictive value 96.00% (77.46–99.41); Negative predictive value 98.18% (88.78–99.73)</td>
</tr>
<tr>
<td>Endoscopist B:</td>
<td>Sensitivity 90.38% (78.97–96.80); Specificity 78.57% (59.05–91.70); Accuracy 86.25% (76.73–92.93); Positive predictive value 88.68% (79.31–94.12); Negative predictive value 81.48% (65.16–91.19)</td>
<td>Sensitivity 35.71% (12.76–64.86); Specificity 98.48% (91.84–99.96); Accuracy 87.50% (78.21–93.84); Positive predictive value 83.33% (38.73–97.53); Negative predictive value 87.84% (83.00–91.44)</td>
<td>Sensitivity 64.00% (42.52–81.03); Specificity 92.73% (82.41–97.98); Accuracy 83.75% (73.82–91.05); Positive predictive value 80.00% (59.82–91.49); Negative predictive value 85.00% (76.97–90.57)</td>
<td>Sensitivity 80.00% (59.30–93.17); Specificity 90.38% (78.97–96.80); Accuracy 87.01% (77.41–93.59); Positive predictive value 80.00% (62.95–90.40); Negative predictive value 90.38% (81.03–95.39)</td>
</tr>
<tr>
<td>Endoscopist C:</td>
<td>Sensitivity 61.54% (47.02–74.20); Specificity 96.43% (81.65–99.91); Accuracy 73.75% (62.71–82.96); Positive predictive value 96.97% (82.19–95.55); Negative predictive value 57.45% (48.72–65.73)</td>
<td>Sensitivity 57.14% (28.86–82.34); Specificity 92.42% (83.20–97.49); Accuracy 86.25% (76.73–92.93); Positive predictive value 61.54% (38.06–80.64); Negative predictive value 91.04% (84.69–94.92)</td>
<td>Sensitivity 64.00% (42.52–82.03); Specificity 80.00% (67.03–89.57); Accuracy 75.00% (64.06–84.01); Positive predictive value 59.26% (44.27–72.70); Negative predictive value 83.02% (74.04–89.34)</td>
<td>Sensitivity 84.00% (63.92–95.46); Specificity 72.22% (58.36–83.54); Accuracy 75.95% (65.02–84.86); Positive predictive value 58.33% (46.84–68.98); Negative predictive value 90.70% (79.64–96.05)</td>
</tr>
<tr>
<td>Endoscopist D:</td>
<td>Sensitivity 75.00% (61.05–85.97); Specificity 75.00% (55.13–89.31); Accuracy 75.00% (64.06–84.01); Positive predictive value 84.78% (74.22–91.51); Negative predictive value 61.76% (49.06–73.04)</td>
<td>Sensitivity 57.14% (28.86–82.34); Specificity 80.30% (68.68–89.07); Accuracy 76.25% (65.42–85.05); Positive predictive value 83.13% (24.03–54.49); Negative predictive value 89.83% (82.66–94.24)</td>
<td>Sensitivity 40.00% (21.13–61.31); Specificity 100.00% (93.51–100.00); Accuracy 81.25% (70.97–89.11); Positive predictive value 100.00%; Negative predictive value 78.57% (72.70–83.47)</td>
<td>Sensitivity 68.00% (46.50–85.85); Specificity 78.18% (64.99–88.19); Accuracy 75.00% (64.06–84.01); Positive predictive value 58.62% (44.53–71.43); Negative predictive value 84.31% (74.90–90.64)</td>
</tr>
</tbody>
</table>

κ-value 0.75, p < 0.001; κ-value 0.29, p = 0.006

κ-value 0.75, p < 0.001; κ-value 0.29, p = 0.006

κ-value 0.75, p < 0.001; κ-value 0.29, p = 0.006

κ-value 0.75, p < 0.001; κ-value 0.29, p = 0.006
**OP178** AN ARTIFICIAL INTELLIGENCE SYSTEM CAN EFFECTIVELY PREDICT DIFFICULTIES IN EXTRACTING CBD STONES DURING ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY A PROSPECTIVE TRIAL

**Authors** Huang L.1, Yu H.1

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**DOI** 10.1055/s-0042-1744741

**Aims** We developed an effective and automatic computer-assisted (CAD) system for evaluating the difficulty of common bile duct (CBD) stones removal in Endoscopic Retrograde Cholangiopancreatography (ERCP) based on deep learning. A multi-center, prospective, observational study was designed to assess the safety and efficacy of the CAD.

**Methods** The CAD system could automatically measure five preset indications in an intelligent stone extraction difficulty scoring scale: stone diameter, number, distal bile duct arm, distal bile duct angulation and diameter. All patients met the include and exclude criteria have participated in the study. The CAD system would evaluate and classify the difficulty of stone removal in to the difficult and easy group according to the cholangiogram. We compared the difference of endpoints between difficult and easy group, such as extraction attempts, extraction time, operation time, complete clearance rate and so on.

**Results** From three hospitals, a total of 173 patients with CBD stones participated in the study. The difficult group was attached with more extraction attempts (7.20 min vs. 4.20 min; P < 0.001), longer extraction time (16.59 min vs. 7.65 min; P < 0.001) and total operation time (29.26 min vs. 22.71 min; P = 0.003), and lower single-session successful rate (73.91 % vs. 94.49 %; P < 0.001).

**Conclusions** The CAD scoring system could effectively score the endoscopic stone extraction technical difficulty during ERCP and be validated in the prospective study. It can match with the universal clinical indicators in clinical environment, and might be helpful to minimize the risk of ERCP during stone removal.

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**OP179** THE ACCURACY OF HUMAN DETECTION OF SUBMUCOSAL INVASIVE CANCER – ANALYSIS OF 739 INDIVIDUAL ASSESSMENTS OF LARGE NON-PEDUNCULATED COLORECTAL POLYPS USING A NOVEL CLINICAL DECISION TOOL

**Authors** Debelis L.1, Schoonjans C.2, Anderson J.3, Valori R.4, Desomer L.5, Tate D.5

**Institutes** 1 Universitair Ziekenhuis Gent, Gent, Belgium; 2 AZ St Jan, Brugge, Belgium; 3 Cheltenham General Hospital, Cheltenham, United Kingdom; 4 Gloucestershire Royal Hospital, Gloucestershire, United Kingdom; 5 AZ Delta, Roeselare, Belgium

**DOI** 10.1055/s-0042-1744742

**Aims** Current tools to detect submucosal invasive cancer (SMI) within large (> = 20 mm) non-pedunculated colorectal polyps (LNPCPs) are complex. This potentially leads to incorrect decision-making (e.g. piecemeal resection of SMI necessitating surgery or surgery for benign disease).

An online decision-support tool was developed using the concept of a demarcated area – where a regular pit/vascular pattern becomes disordered – to quantify COVERT (hidden) SMI risk.

**Methods** A survey was sent to endoscopists containing an educational video with 20 subsequent randomly-presented standardized videos of LNPCPs. Participants’ first impression was asked before using the tool to classify polyps as low/high (COVERT), or very high (OVERT) risk of SMI. Responses were compared to expert responses and histopathology.

**Results** 739 individual responses were analysed. First impression strongly predicted absence of SMI – negative predictive value (NPV) 97.5 % (95 % confidence interval (95 %CI):95.0-99.9 %) and accuracy 72.3 % (95 %CI:68.9-75.6 %). Absence of a demarcated area was predicted with similar NPV – 97.6 % (95 %CI:96.0-99.0 %). Low accuracy, 78.6 % (95 %CI:76.5-81.5 %), resulted from participant overcalling of a demarcated area. The accuracy of participant size, Paris classification, size, colonic location, and granularity) to quantify COVERT (hidden) SMI risk.

**Table 1**

<table>
<thead>
<tr>
<th>CAD score results</th>
<th>Difficult group</th>
<th>Easy group</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete clearance rate, % (n)</td>
<td>34(73.91)</td>
<td>120(94.49)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Total complete clearance rate, % (n)</td>
<td>89.13(41/46)</td>
<td>97.64(124/127)</td>
<td>0.019</td>
</tr>
<tr>
<td>The number of stone extraction, n (SD)</td>
<td>7.20(4.34)</td>
<td>4.20(4.06)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Machine lithotripsy, n (%)</td>
<td>14(60.87)</td>
<td>9(39.13)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

**Fig. 1** Resultant treatment if determined by participant score from the clinical decision support tool as versus expert score: % in header of row, % in table body of column.

<table>
<thead>
<tr>
<th>Expert score versus participants result in terms of treatment outcome (right) // Result of participant scoring (below)</th>
<th>Undertreatment n = 97 (13.1 %)</th>
<th>Correct treatment n = 527 (71.3 %)</th>
<th>Overtreatment n = 115 (15.6 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk, n (%)</td>
<td>0 (0)</td>
<td>329 (62.4)</td>
<td>115 (100)</td>
</tr>
<tr>
<td>High risk, n (%)</td>
<td>87 (89.7)</td>
<td>60 (11.4)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Very high risk, n (%)</td>
<td>10 (10.3)</td>
<td>138 (26.2)</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>
Conclusions Endoscopists of varying experience can exclude SMI within LNP-CPs from a standardized video using a decision-support tool after training. Further validation and application of this tool may prevent negative patient outcomes.

OP180 FULFILMENT ANALYSIS OF QUALITY STANDARDS, STABLISHED BY THE EUROPEAN SOCIETY OF GASTROINTESTINAL ENDOSCOPY, IN SMALL-BOWEL CAPSULE ENDOSCOPY IN SPANISH CENTERS

Authors Gómez Villagrá M1, Prieto C2, Actores D3, Alonso M4, Alonso N5, Caballero N6, Sánchez Ceballos F7, Compañy L8, Egea J9, Esteban P10, Farrais S11, Fernandez-Urrien I11, Gálvez C12, García A13, García Lledó J14, Gonzalez B15, Jimenez A16, Lujan M17, Mateos B18, Romero C19, San Juan M20, Valdivieso E21, Carretero C1

Institutes 1 Clínica Universidad de Navarra, Pamplona, Spain; 2 Clínica Universidad de Navarra, Pamplona, Spain; 3 Hospital Quirón Madrid, Madrid, Spain; 4 Hospital Universitario San Carlos, Madrid, Spain; 5 Hospital Universitario y Politécnico La Fe, Valencia, Spain; 6 Hospital German Trías i Pujol, Girona, Spain; 7 Hospital Clínico San Carlos, Madrid, Spain; 8 Hospital Universitario de Alicante, Alicante, Spain; 9 Hospital Virgen de la Arrixaca, El Palmar, Spain; 10 Hospital General Universitario Morales Meseguer, Murcia, Spain; 11 Hospital Universitario Fundación Jiménez Díaz, Madrid, Spain; 12 Hospital Clínico Universitario de Valencia, Valencia, Spain; 13 Hospital Virgen de la Salud, Toledo, Spain; 14 Hospital Universitario Gregorio Marañón, Madrid, Spain; 15 Hospital Clinic de Barcelona, Barcelona, Spain; 16 Hospital Universitario Virgen de la Macarena, Sevilla, Spain; 17 Conscrip Hospital General Universitario de Valencia, Valencia, Spain; 18 Hospital Universitario Ramón y Cajal, Madrid, Spain; 19 Hospital de Santa Creu y Sant Pau, Barcelona, Spain; 20 Hospital Universitario Nuestra Señora de la Candelaria, Tenerife, Spain; 21 Complejo Hospitalario Universitario A Coruña, A Coruña, Spain DOI 10.1055/s-0042-1744744

Aims In 2019 the working group of the European Society of Gastrointestinal Endoscopy (ESGE) was reunited with the objective of developing technical and quality standards for small-bowel endoscopy, in order to improve the daily practice in the endoscopy services. The aim is to evaluate the accomplishment of the quality standards in small-bowel endoscopy (SBCE) established by the ESGE, in several Spanish centers.

Methods An online questionnaire was sent to different centers in our country with experienced gastroenterologists in SBCE. It consisted of ten items, in relation with the ESGE quality performance measures. In order to take part of the study, at least 100 questionnaires should be uploaded.

Twenty centers collaborated, answering a total of 2049 questionnaires. Overall, the minimum standard was only reached in the domain named “Completeness of the procedure”, 88% of the SBCEs analyzed reached the cecum (Table 1). A second analysis showed an heterogeneous rate of centers achieving the standards of SBCE performance measures. In fact, the minimum standard was only reached by at least 50% of the participant centers in two key performance measures and two minor performance measures.

Conclusions This is the first Spanish multicentric study that analyses the achievement of performance measures in SBCE. Our results do not reach the standards in the majority of the performance measures although an elevated number of procedures were included. We recommend to each center to have an internal evaluation in order to identify the quality areas that can be improved, before a change in the standards is suggested.

OP181 USEFULNESS AND SAFETY OF A NEW DIGITAL SINGLE-OPERATOR CHOLANGIOSCOPY: A SINGLE-CENTER EXPERIENCE

Authors Robles-Medranda C1, Alcivar-Vasquez J1, Raijman L2-3, Kahaleh M4, Puga-Tejada M1, Baquerizo-Burgos J1, Del Valle R1, Alvarado H1, Cifuentes-Gordillo C1, Merfe R.C.1, Barreto Perez J1, Rodriguez J1, Caffe-Loeffredo D1, Lukashok H.P1

Institutes 1 Instituto Ecuatoriano de Enfermedades Digestivas, Guayaquil, Ecuador; 2 Houston Methodist Hospital, Houston, United States; 3 Baylor Saint Luke’s Medical Center, Houston, United States; 4 Robert Wood Johnson Medical School Rutgers University, New Brunswick, United States DOI 10.1055/s-0042-1744744

Aims A new DSOC system called Eye-MaxTM (Micro-Tech, Nanjing, China) has been developed with a 9Fr and 11Fr scopes and full HD + image (150000 pixels). We aimed to report diagnostic accuracy, biliary stone clearance, and procedure-related adverse events with this new device.

Methods Prospective data was collected in consecutive patients aged ≥18 years referred for DSOC between July-November 2021. Suspected malignancy/indeterminate stricture diagnosis were allocated into the diagnostic group; failed lithotripsy or >20mm biliary stones were allocated into the therapeutic group. Patients with <6-month follow-up, uncontrolled coagulopathy, pregnant/lactating, with contrast allergy or with no scope passage, were excluded. The institutional review board approved the study protocol, and the study was conducted according to the Declaration of Helsinki. All patients provided written informed consent. Data was analyzed in Rev.4.0.

Results 31 cases were attended. In the diagnostic cohort (n = 21/31; 68%), neoplastic signs at visual impression were identified in 10/21 (47.6%) cases using in 8/10 a 9Fr scope. Biopsy was performed in 14/21 (66.7%) cases and confirmed neoplasia in 10/21 (47.6%). DSOC achieved an accuracy for neoplas-
tic diagnosis with a 90% sensitivity, 75% specificity (Table 1). In the therapeutic cohort (12/31; 39 %): 11/12 cases required lithotripsy, being 1/12 a pancreatoscopy, and 1/12 underwent DSOC due to proximal biliary stent migration. Complete stone clearance was achieved in 10/11 (91 %) patients (Fig. 1). No periprocedural or late adverse events were documented.

### Table 1 Diagnostic cohort (21/31; 68%).

<table>
<thead>
<tr>
<th></th>
<th>Total (N=21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years), median (IQR)</td>
<td>59.0 (46.0 – 66.0)</td>
</tr>
<tr>
<td>Indication, n (%)</td>
<td></td>
</tr>
<tr>
<td>Biliary tract lesion</td>
<td>20 (95.2)</td>
</tr>
<tr>
<td>Pancreatic duct stenosis</td>
<td>1 (4.8)</td>
</tr>
<tr>
<td>Adequate biopsy, n(%)</td>
<td>14 (100.0)</td>
</tr>
<tr>
<td>Histopathological diagnosis (n=14), n (%)</td>
<td></td>
</tr>
<tr>
<td>Inflammatory</td>
<td>3 (21.4)</td>
</tr>
<tr>
<td>Cholangiocarcinoma</td>
<td>9 (64.3)</td>
</tr>
<tr>
<td>Secondary to malignant infiltration</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>IgG4</td>
<td>1 (7.1)</td>
</tr>
</tbody>
</table>

Plant vs. APC/Innate Immunity 17:00–18:00 Friday, 29 April 2022 Club A

OP182 ARTIFICIAL INTELLIGENCE IN (GASTROENTEROLOGY) HEALTHCARE – PATIENTS’ AND PHYSICIANS’ PERSPECTIVES

**Authors** van der Zander Q.E.1,2, van der Ende-van Loon M.C.1, Janssen J.M.2, Winkens B.4,5, van der Sommen F.6, Masclée A.A.1, Schoon E.J.1,3

**Institutes** 1 Maastricht University Medical Center, Department of Gastroenterology and Hepatology, Maastricht, Netherlands; 2 Maastricht University, GROW, School for Oncology and Developmental Biology, Maastricht, Netherlands; 3 Catharina Hospital Eindhoven, Department of Gastroenterology and Hepatology, Eindhoven, Netherlands; 4 Maastricht University, Department of Methodology and Statistics, Maastricht, Netherlands; 5 Maastricht University, CAPHRI, Care and Public Health Research Institute, Maastricht, Netherlands; 6 Eindhoven University of Technology, Department of Electrical Engineering, Eindhoven, Netherlands

**DOI** 10.1055/s-0042-1744745

**Aims** Artificial intelligence (AI) is entering into daily life and has great potential in healthcare. Aim was to investigate the knowledge, experience, and opinion on AI among patients with gastrointestinal (GI) disorders and GI-physicians.

**Methods** This non-interventional, prospective questionnaire study, collected data from GI-patients and GI-physicians (certified gastroenterologists and GI-fellows). Primary outcomes were the knowledge, experience, and opinion on AI. Secondary outcomes were the willingness to apply AI and (dis)advantages of AI use in healthcare.

**Results** In total, 377 GI-patients, 35 gastroenterologists, and 45 GI-fellows participated. Of GI-patients, 62.5 % reported to be familiar with AI and 25 % of GI-physicians had work-related AI experience. On a 5-point Likert-scale, GI-patients preferred their physicians to use AI (mean 3.9 [SD1.0]). GI-physicians were willing to use AI for their patients (gastroenterologists 4.8 [SD0.4] vs GI-fellows 4.3 [SD0.7], P<0.001). GI-physicians were more convinced in an increase in quality of care (81.3 %) than GI-patients (64.9 %, P=0.017). On average, GI-fellows expected AI implementation within 6.0 years (SD3.0), whereas gastroenterologists expected this within 4.2 years (SD2.7, P<0.001) and GI-patients within 6.1 years (SD4.6, P=0.047 compared to 5.2 years for GI-physicians). GI-patients and GI-physicians agreed on the main advantage of AI in healthcare: improving quality of care (66.1 % GI-patients, 90.0 % GI-physicians). The main disadvantage for GI-patients was the potential loss of personal contact with physicians (66.4 %), where this was insufficiently developed IT infrastructures for GI-physicians (56.3 %).

**Conclusions** GI-patients and GI-physicians were positive towards AI and implementation in healthcare. A proper understanding of (dis)advantages will help AI developments and will increase trust in AI.

OP183 INCIDENCE OF GASTRIC NEOPLASTIC LESIONS AT LONG-TERM FOLLOW-UP IN PATIENTS WITH AUTOIMMUNE ATROPHIC GASTRITIS

**Authors** Dilaghi E.1, Pivotta G.1, Pilozzi E.2, Annibale B.1, Lahner E.1, Esposito G.1

**Institutes** 1 Sapienza University of Rome, Department of Medical-Surgical Sciences and Translational Medicine, Sant’Andrea Hospital, Rome, Italy; 2 Sapienza University of Rome, Department of Clinical and Molecular Medicine, Sant’Andrea Hospital, Rome, Italy

**DOI** 10.1055/s-0042-1744746

Conclusions Eye-Max™ DSOC has excellent diagnostic efficacy for distinguishing neoplastic biliary lesions, as well as therapeutic profitability.

**Fig. 1**
Gastrointestinal endoscopy is one of the most common technique for diagnosing and treating gastrointestinal disorders. The endoscopy report is essential for facilitating diagnosis, therapy strategic decision, clinical recommendations, further consultation and follow-up. To ensure adequate quality of endoscopy report, minimal standard terminology and semi-structured formation were recommended by guidelines. However, manual endoscopic reporting is time-consuming, with significant heterogeneity among endoscopists and clinical environment. We aimed to develop and validate a deep learning-based automatic semi-structured upper gastrointestinal endoscopic reporting system.

Methods We retrospectively collected 99174 esophagogastroduodenoscopy (EGD) images to conduct this system, 75742 images for anatomical landmarks identifying model, 21460 for gastric lesions classifying model, including including dysplasia, submucosal tumor, gastric ulcer, erosion, benign polyp, xanthelasma, and 15256 images for esophageal lesions classifying model, including dysplasia, heterotopic gastric mucosa, submucosal tumor, oesophagitis, gastroesophageal reflux, barrett's esophagus. The system was able to capture eligible images during endoscopy, selected by clarity, mucosal exposure, and confidence coefficient of lesion detection. Further, 500 videoclips contains lesions above were collected to validate the performance of the system.

Results In image validation, the system achieved an accuracy of 90.45 % and 89.1 %, respectively, to classify gastric and esophagus lesion type in image validation. In video validation, the system automatically detect lesion with accuracy 89.1 %, 83.7 %, and 83.7 %, respectively.

Conclusions We trained a model based on deep learning, which has high diagnostic accuracy for AG under white light endoscopy.

OP187 DEVELOPMENT AND VALIDATION OF DEEP LEARNING-BASED AUTOMATIC SEMI-STRUCTURED UPPER GASTROINTESTINAL ENDOSCOPIC REPORTING SYSTEM

Authors  Zhang L.1, Lu Z.1, Yao L.1, Yu H.1

Institute 1 Renmin Hospital of Wuhan University, Department of Gastroenterology, Wuhan, China


Aims Gastrointestinal endoscopy is one of the most common technique for gastrointestinal disorders. The endoscopy report is essential for facilitating diagnosis, therapy strategic decision, clinical recommendations, further consultation and follow-up. To ensure adequate quality of endoscopy report, minimal standard terminology and semi-structured formation were recommended by guidelines. However, manual endoscopic reporting is time-consuming, with significant heterogeneity among endoscopists and clinical environment. We aimed to develop and validate a deep learning-based automatic semi-structured upper gastrointestinal endoscopic reporting system.
How to manage adverse events in colonoscopy
17:00–18:00
Friday, 29 April 2022
Club E

OP189V IATROGENIC COLONIC PERFORATION CLOSURE WITH AN OVER-THE-SCOPE CLIP APPLIED WITH GASTROSCOPIC FOUR HOURS UPON INDEX COLONOSCOPY: A CASE REPORT

Authors Nicolas P.1, Velegakli M.1, Arna D.1, Psistikas A.1, Bahlitzanakhs E.2, Flamourakis M.2, Paspatis G.1

Institutes 1 Venizeleio General Hospital, Department of Gastroenterology, Heraklion, Greece; 2 Venizeleio General Hospital, Department of Surgery, Heraklion, Greece

A 77-year-old man with myelodysplastic syndrome is scoped for a 71-year-old female was referred to our unit due to a perforation at the sigmoid colon, endoscopically diagnosed 4 hours earlier during a screening colonoscopy, which was initially treated with conventional clipping. The closure was not considered secure by the endoscopist and the patient was referred to our unit. We decided to proceed with a new colonoscopy. An approximately 1.5 cm defect was identified and its closure was attempted using an OTSC mounted on a colonoscope, which was impossible due to pelvic adhesions. The attempt was continued and an OTSC was mounted on a gastroscope. The clip was successfully applied.

OP190V ENDOSCOPIC MANAGEMENT OF IATROGENIC PERFORATIONS DURING THERAPEUTIC ENDOSCOPY – KEEP CALM AND HAVE A PLAN B

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Institute 1 Hospital Universitario de São João, Gastroenterology, Porto, Portugal

We describe 2 patients with endoscopic perforations after stricture dilation and stent placement, caused by the advancement of the tip of the devices. The first case refers to a patient with a 6mm ileal pouch perforation caused by balloon tip advancement during dilation of an ileoanal Anastomosis stricture, managed with endoscopic clips. The second case refers to a woman with an 8mm jejunal limb perforation caused by the advancement of the stent delivery system, used to treat a post-gastrectomy leak, that was managed with an OTSC and a second stent covering the leak and the perforation. Both patients remain well.

OP191V PERFORATION DURING diagnostic COLONOSCOPY: OTSC AND DECOMPRESSIVE AIR PARACENTESIS FOR SUCCESSFUL RESOLUTION

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Iatrogenic perforation during diagnostic colonoscopy is a rare complication (0.03-0.8%). A 77-year-old man with myelodysplastic syndrome is scoped for melena. During colonoscopy insertion, sigmoid transmural perforation occurs. Given the poor manoeuvrability and the risk of complete collapse of the intestinal lumen, a 0.035" guidewire is progressed proximally. Secondly, using an OTSC clip and the twin grasper (Ovesco), transmural defect is closed. Then, decompressive air paracentesis is performed reducing pneumoperitoneum. Although marginal, the risk of perforation during diagnostic colonoscopy exists. OTSC clips are useful in these scenarios. Decompressive air paracentesis helps controlling secondary pneumoperitoneum.

OP192 TECHNICAL OUTCOMES AND RISK OF STRICUTURE AFTER ENDOSCOPIC SUBMUCOSAL DISSECTION FOR LARGE COLORECTAL LESIONS

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Colonic diverticular bleeding (CDB) is a common cause of acute lower gastrointestinal bleeding. Patients with CDB are at increased risk for recurrence. Here, we aimed to evaluate the clinical course of patients with CDB and identify risk factors including Charlson comorbid index (CCI) for recurrent CDB (rCDB).

**Aims**
- COLONIC DIVERTICULAR REBLEEDING
- OP193 CHARLSON COMORBIDITY INDEX PREDICTS COLONIC DIVERTICULAR REBLEEDING
- OP194 ENDOSCOPIC MANAGEMENT OF COLORECTAL ANASTOMOTIC LEAKAGE COMPlicated WITH PELVIC ABSCESS: ENDOSCOPIC VACUUM THERAPY A NEW STRATEGY?
- OP195 IS PREVIOUS SPHINCTEROTOMY REQUIRED BEFORE PLACEMENT OF A BILIARY COVERED SEMS?
Aims Adequate preoperative biliary drainage (PBD) is important in patients with resectable perihilar cholangiocarcinoma (pCCA). Currently, uncovered self-expanding metal stents (SEMS) are not recommended due to potential difficult surgical removal. However, SEMS have proven their advantage in the palliative setting showing a much longer patency and even survival. The aim of this study is to compare the efficacy of PBD with SEMS versus plastic stents (PS) in relation to surgical outcome in resectable pCCA patients.

Methods In this retrospective, multicenter, international cohort study, patients with high suspicion of resectable pCCA who underwent ERCP as initial drainage/access during staged endotherapy, thus precluding PTBD or surgery. Thirty-two were performed before placing the CSEMS. There were AE in 20.9 %: pancreatitis (9 %), perforation (2.5 %), hemorrhage (6.9 %) and others (2.4 %), with 4 secondary deaths (1.2 %) due to pancreatitis. The incidence of AE did not vary depending on whether or not a sphincterotomy was performed (20.5 % vs 20.8 %, p = 1), with a higher risk of bleeding with sphincterotomy (8.2 % vs 0 %, p = 0.066) and higher risk of death in patients with post-ERCP pancreatitis without sphincterotomy (0.4 % vs 5.7 %, p = 0.01). Sphincteroplasty prior to SEMS placement entailed a higher risk of AE (35 % vs 18 %, p = 0.01), bleeding (14.6 % vs 5.5 %, p = 0.03 ) and pancreatitis (16.7 % vs 7.7 %, p = 0.05). With logistic regression, we verified that placement of SEMS without prior sphincterotomy carries a lower risk of AE (OR = 2.9, 95 % CI = 1.6-5.1) adjusted for sex, endoscopy, sphincteroplasty and sphincterotomy.

Conclusions Not to perform sphincteroplasty before placing SEMS does not increase the risk of AE, although patients with post-ERCP pancreatitis could have a worse prognosis. Sphincteroplasty prior to SEMS placement implies a higher risk of AE.

**OP196** A PROPENSITY MATCHED RETROSPECTIVE STUDY ON PREOPERATIVE BILIARY DRAINAGE IN PATIENTS WITH RESECTABLE PERIHILAR CHOLANGIOCARCINOMA: METAL BEATS PLASTIC STENTS?

**Authors** de Jong D.M.1, Nocinjan L.E.2, Gilbert T.M.1, Braunwarth E.4, Ninkovic M.4, Primavessi E.4, Malkz H.Z.1, Stern N.1, Sturgess R.1, Erdmann J.J.2, Voermans R.P.4, Bruno M.J.1, Groot Koerkamp B.7, van Driel L.M.1

**Institutes** 1 Erasmus University Medical Center, Gastroenterology and Hepatology, Rotterdam, Netherlands; 2 Amsterdam UMC, Department of Surgery, Amsterdam, Netherlands; 3 University Hospital Aintree, Department of Surgery, Liverpool, United Kingdom; 4 Medical University Innsbruck, Department of Surgery, Innsbruck, Austria; 5 Aintree University Hospitals NHS Foundation Trust, Digestive Diseases Unit, Liverpool, United Kingdom; 6 Amsterdam UMC, Department of Gastroenterology and Hepatology, Amsterdam, Netherlands; 7 Erasmus University Medical Center, Department of Surgery, Rotterdam, Netherlands

**DOI** 10.1055/s-0042-1744759

**Aims** Adequate preoperative biliary drainage (PBD) is important in patients with resectable perihilar cholangiocarcinoma (pCCA). Currently, uncovered self-expanding metal stents (SEMS) are not recommended due to potential difficult surgical removal. However, SEMS have proven their advantage in the palliative setting showing a much longer patency and even survival. The aim of this study is to compare the efficacy of PBD with SEMS versus plastic stents (PS) in relation to surgical outcome in resectable pCCA patients.

**Methods** In this retrospective, multicenter, international cohort study, patients with high suspicion of resectable pCCA who underwent ERCP as initial method to obtain PBD were included from 2010-2020. Efficacy was defined as stent failure, e.g. a composite endpoint of choledangiitis and/or re-intervention due to complications or inadequate PBD. Other complications, surgical outcomes and survival were recorded. Propensity score matching (PSM) was performed to adjust for potential confounders.

**Results** 474 patients had successful stent placement, of which 83 received SEMS and 391 PS. Stent failure occurred significantly less in the SEMS group (28 % vs 67 %, p < 0.001). However, the number of patients undergoing curative intent surgery was similar. Other stent-related complications were alike. Complete SEMS removal during surgery was successful and without complications. Post-operative outcomes and survival were comparable, except for significantly more hepaticojejunostomy leaks in the PS group.

**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>SEMS (n = 81)</th>
<th>Plastic (n = 81)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stent failure</td>
<td>23 (28 %)</td>
<td>54 (67 %)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Curative intent surgery</td>
<td>39 (57 %)</td>
<td>42 (59 %)</td>
<td>0.965</td>
</tr>
<tr>
<td>90-day mortality</td>
<td>8 (21 %)</td>
<td>8 (19 %)</td>
<td>1.000</td>
</tr>
<tr>
<td>Hepaticojejunostomy leak</td>
<td>2 (5 %)</td>
<td>9 (21 %)</td>
<td>0.049</td>
</tr>
</tbody>
</table>

**Conclusions** SEMS shows superior drainage characteristics compared to PS in patients with resectable pCCA and removal during surgery was well feasible. Surgical outcomes were comparable. Prospective studies are needed to confirm this promising data on PBD by SEMS.

**OP197** TEMPORARY EUS-GUIDED ANASTOMOSES (TEAS) TO FACILITATE STAGED ENDOTHERAPY OF COMPLEX BENIGN BILIARY OBSTRUCTION (BBO)

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**DOI** 10.1055/s-0042-1744760

**Aims** To assess treatment outcomes of TEAS using transmural covered self-expandable metal-stents (cSEMS) to provide interval biliary drainage and to maintain access for staged biliary endotherapy under cholangioscopy or fluoroscopy in BBO not amenable to ERCP.

**Methods** Among 14,443 consecutive ERCPs databased over 15-years, 112 BBO patients (40.2 % female; age = 70.7 [SD 13.56] years) with EUS-guided transmural cSEMS were identified. Indications, technique, interventions, technical/clinical success, and AEs were retrieved.

**Results** Indications: Post-operative strictures 28.6 %, CBD stones 23.2 %, Non-surgical benign strictures 18.8 %, Transsections 15.2 %, Hepatolithiasis 9.8 %, Other 4.5 %. Surgically-altered anatomy in 57.1 % (Roux-en-Y gastrectomy 22 %, Whipple 13.4 %, Roux-en-Y hepatico-jejunostomy 11.6 %, Other 8.9 %).

Primary EUS-BD in 37.5 %; salvage EUS-BD following failed/incomplete ERCP in 62.5 %. 8-10mm x 60-80mm cSEMS with anchoring flaps and/or anchoring clips/pigtails were used for transhepatic/extrahepatic (79 %/21 %) TEAs. Over a median (IQR) cSEMS indwell time of 118.5 (49-358) days a median (IQR) of 2 (1-3) treatment sessions guided by anastomangiography/cholangioscopy through the cSEMS or naked fistula were performed for antegrade balloon-dilation, stent insertion/removal, stone removal, lithotripsy, rendezvous, magnetic compression anastomoses, needle-knife incision. cSEMS removal was successful in all attempted cases (66 %); TEAs were converted to definitive transmural biliary drainage in 8.9 %, 25.1 %: wait treatment completion or have follow-up data unavailable. Final clinical success was achieved in 89.5 % of patients. 37 AEs (5.4 % severe) occurred in 213 procedures (17.4 %).

**Conclusions** Select complex BBO patients can be treated using TEAS to provide drainage/access during staged endotherapy, thus precluding PTBD or surgery.

**OP198V** UNCOMMOM CAUSE OF DISTAL CBD STRICUTURE

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**DOI** 10.1055/s-0042-1744761

Thirty-five years old female, presenting with post prandial abdominal pain (Right hypochondrial) and jaundice for 1 month.
Investigations revealed normal complete blood count. Her liver function tests showed: increased level of Bilirubin 4 mg/dl (Direct 3mg/dl), increased ALP and GGT. Liver Enzymes were normal. Imaging examination by CT Abdomen showed Dilatation of IHB and CBD down to the papilla. Confirmation of diagnosis was done by Serological test: +ve Anti-Fasciola Hepatica Ab Treatment was started by Triclabindazole – two doses of 10 mg/kg given 12 hours apart. Symptoms regressed and Liver Function tests normalized after 3 days.

**OP199** COMPARISON OF TWO INTRADUCTAL BRUSH CYTOLOGY DEVICES FOR SUSPECTED MALIG-NANT BILIARY STRICTURES: INTERIM-ANALYSIS OF A RANDOMIZED CONTROLLED TRIAL

**Authors** Corris M.1, van Huijgevoort N.1, Fockens P.1, Lekkerkerker S.1, Meijer S.2, Verheij J.2, Voermans R.1, van Wanrooij R.2, van Hooft J.4

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**DOI** 10.1055/s-0042-1744762

**Aims** Endoscopic retrograde cholangiopancreatography (ERCP) with brush cytology is commonly used to obtain tissue diagnosis of suspected malignant pancreaticobiliary strictures. We aimed to compare the sensitivity of two intraductal brush cytology devices in these patients.

**Methods** We performed a randomized controlled trial in consecutive patients with suspected malignant, non-bilar stricture who underwent ERCP with concomitant sphincterotomy. Patients were randomly assigned (1:1) to either the Infinity or the RX cytology brush. Histopathological results, cytopathology results or clinical and/or radiological follow-up were used as reference standard. Primary endpoint was sensitivity, defined as brush cytology specimen showing at least suspicion of malignancy (Bethesda II) in patients with malignant diagnosis. Secondary endpoints were diagnostic performance and adverse events. Interim analysis was conducted after 50 % of the patients completed follow-up.

**Results** We screened 172 patients and could randomize 56 patients to the Infinity brush (24 patients, 43 %) or to the RX cytology brush (32 patients, 57 %) between June 2016 and April 2020. Sensitivity of the Infinity brush and RX cytology brush were 50 % and 45 %, respectively. Diagnosis was confirmed by histopathology (n = 24, 43 %), cytopathology (n = 26, 46 %), and clinical or radiological follow up (n = 6, 11 %) and revealed malignancy in 52 patients (93 %) and benign disease in 4 patients (7 %). No differences in diagnostic performance or adverse events were observed. The study was ended prematurely because of futility.

**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>Infinity brush</th>
<th>RX cytology brush</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>48</td>
<td>45</td>
</tr>
<tr>
<td>Specificity</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>PPV</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>NPV</td>
<td>8</td>
<td>16</td>
</tr>
</tbody>
</table>

**Fig. 1**

**Conclusions** The results of this study showed at the interim analysis that the sensitivity of the Infinity brush is not superior to RX cytology brush for diagnosing malignant pancreaticobiliary strictures.

**OP200** A NEW BIODEGRADABLE STENT IN BILIO-PANCREATIC DISEASES: A PROSPECTIVE MULTI-CENTER FEASIBILITY STUDY

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**DOI** 10.1055/s-0042-1744763

**Aims** Biodegradable stents of various designs are reportedly used in pancreato-biliary conditions with promising results. Their major advantage is the avoidance of a repeat endoscopic procedure for stent removal thereby reducing overall cost along with ERCP associated adverse events. To evaluate the feasibility and safety of a new biodegradable stent in patients with pancreato-biliary diseases.

**Methods** Prospective multicenter pilot study. All consecutive patients 18-years-old who underwent biliary or pancreatic stenting using the new biodegradable Archimedes stent were included. There were three biodegradation profiles. Technical and clinical success, feasibility and safety were assessed during a pre-established follow-up schedule.

**Results** Fifty-three patients (mean age: 48.54 ± 19.29, 66 % male) having bilary (n = 29, 54.7 %) or pancreatic (n = 24, 45.3 %) indications were included. The distribution of stents used according to degradation properties were as follows: fast (n = 11, 20.8 %), medium (n = 16, 30.2 %) and slow (n = 26, 49.1 %). The technical and clinical success were 100 % and 77.8 %. Thirty-five patients were followed for a median of 26 weeks (range: 4-56, 66 %). There were 9 procedure-related adverse events (17 %), all mild, including one uneventful stent-related event (external migration).
**Table 1** Procedural performances of the new biodegradable Archimedes stent for biliary and pancreatic indications using a predefined 4-points score (1-excellent, 2-good, 3-fair, 4-poor) grouped in high (1-2) or low (3-4).

<table>
<thead>
<tr>
<th></th>
<th>Loadability</th>
<th>Pushability</th>
<th>Flexibility</th>
<th>Fluoroscopic visualization</th>
<th>Deployment accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall (score)</strong></td>
<td>Excellent (n = 43, 81.1 %)</td>
<td>Excellent (n = 45, 84.9 %)</td>
<td>Excellent (n = 32, 60.4 %)</td>
<td>Excellent (n = 30, 56.6 %)</td>
<td>Excellent (n = 41, 77.4 %)</td>
</tr>
<tr>
<td></td>
<td>Good (n = 9, 17 %)</td>
<td>Good (n = 16, 30.2 %)</td>
<td>Good (n = 18, 34 %)</td>
<td>Good (n = 10, 18.9 %)</td>
<td>Good (n = 2, 3.8 %)</td>
</tr>
<tr>
<td></td>
<td>Fair (0)</td>
<td>Fair (3, 5.7 %)</td>
<td>Fair (5, 9.4 %)</td>
<td>Fair (2, 3.8 %)</td>
<td>Fair (0)</td>
</tr>
<tr>
<td></td>
<td>Poor (n = 1, 1.9 %)</td>
<td>Poor (n = 2, 3.8 %)</td>
<td>Poor (n = 2, 3.8 %)</td>
<td>Poor (n = 2, 3.8 %)</td>
<td>Poor (0)</td>
</tr>
<tr>
<td><strong>Biliary indications</strong></td>
<td>High (n = 28, 96.6 %)</td>
<td>High (n = 25, 86.2 %)</td>
<td>High (n = 24, 82.8 %)</td>
<td>High (n = 27, 93.1 %)</td>
<td>High (n = 29, 93.1 %)</td>
</tr>
<tr>
<td></td>
<td>Low (n = 1, 3.4 %)</td>
<td>Low (n = 4, 13.8 %)</td>
<td>Low (n = 5, 17.2 %)</td>
<td>Low (n = 2, 6.9 %)</td>
<td>Low (n = 2, 6.9 %)</td>
</tr>
<tr>
<td><strong>Pancreatic indications</strong></td>
<td>High (n = 24, 100 %)</td>
<td>High (n = 24, 100 %)</td>
<td>High (n = 24, 100 %)</td>
<td>High (n = 21, 87.5 %)</td>
<td>High (n = 24, 100 %)</td>
</tr>
<tr>
<td></td>
<td>Low (0)</td>
<td>Low (0)</td>
<td>Low (0)</td>
<td>Low (3, 12.5 %)</td>
<td>Low (0)</td>
</tr>
</tbody>
</table>

**Conclusions** The biodegradable Archimedes stent placement is feasible and safe in pancreato-biliary diseases.

**Fig. 1**

**OP201** SAFETY AND FEASIBILITY OF LUMEN-APPOSING METAL STENTS REMOVALS. RESULTS FROM A PROSPECTIVE NATIONALWIDE REGISTRY


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**DOI** 10.1055/s-0042-1744764

**Aims** Lumen-apposing metal stents (LAMS) removals are performed in advanced endoscopy suites equipped with fluoroscopy. Studies assessing the removal complexity, technique and adverse events (AEs) are lacking.

**Methods** Prospective case series including all consecutive LAMS placement attempts between 2019-2020 in 31 centers. Analysis of all endoscopic removals following a technically successful LAMS placement. After removal, a centralised, standardised follow-up interview was undertaken. Complex removals were defined as those described as difficult by the endoscopist or if the time required was >90th percentile. Multivariable logistic regression techniques assessed risk factors for embodement and complex removal.

**Results** A total of 158 removal attempts after a median indwell time of 46.5 days (IQR: 31-70) were included (Table 1). Stent embodement was observed in 19 (12 %) cases, partial (14 (8.9 %)) or total (5 (3.2 %)). An indwell time >5 weeks (77.4 %) was required. Multivariable logistic regression techniques assessed risk factors for embodement and complex removal.

**Overall**, 156 (98.7 %) retrievals were successful, requiring 2 minutes (IQR: 1-4). Stent embodement associated longer removal times (p = 0.001). 149 (94.3 %) removals were performed by proximal flap traction (rat-tooth forceps or pol-
Aims Regarding lumen apposing metal stents (LAMS), the benefit of coaxial double pigtail stents remains unclear. We aimed at assessing their effect on the adverse events (AEs) rate in pancreatic collections, gallbladder and choledochal drainages.

Methods We performed a subanalysis of the the RNPAI case series, which retrieved all transmural LAMS between January 2019 and January 2020 in 31 centres, including all technically successful LAMS placed in pancreatic collections, EUS-guided gallbladder drainage (EUS-GBD) and common bile duct drains (EUS-CBD). AEs were identified though centralised periodic follow-up until withdrawal, death, or up to 1 year, using standardized telephone questionnaires. We used the log-rank test to evaluate the effect of double-pigtail stents and Cox regression techniques for other possible risk factors.

Results We included 140 pancreatic collections (67.9% WONS, 32.1% pseudocysts), 79 EUS-GBD and 49 EUS-CBD. Table 1 shows their baseline characteristics. Double-pigtail stents were used in 46.4–55.7% of cases, according to the procedure. We identified 46 AE (11 severe/fatal) in pancreatic collections, 10 in EUS-GBD, and 13 in EUS-CDS. The log-rank test documented a risk reduction with double-pigtail stents in pancreatic collections (p = 0.02) and in EUS-GBD (Figure 1, p = 0.04). We did not observe differences in EUS-CDS (p = 0.57). The only risk factor identified was the presence of biliopancreatic tumors in gallbladder drainages (HR 5.2 (95% CI: 1.2–21.8), p = 0.03).

Conclusions Removals of LAMS placed with a free-hand technique scheduled within 5 weeks after deployment can be undertaken in a conventional endoscopy suite.

**Table 1**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Age, med (IQR)</td>
<td>62.2 (50.8–70.5)</td>
</tr>
<tr>
<td>Sex male, n (%)</td>
<td>105 (66.5%)</td>
</tr>
<tr>
<td>Indication, n (%)</td>
<td></td>
</tr>
<tr>
<td>WON</td>
<td>76 (48.1%)</td>
</tr>
<tr>
<td>Pseudocysts</td>
<td>39 (24.7%)</td>
</tr>
<tr>
<td>No pancreatic fluid collections</td>
<td>19 (12%)</td>
</tr>
<tr>
<td>Enteroanastomoses</td>
<td>17 (10.8%)</td>
</tr>
<tr>
<td>Others</td>
<td>7 (4.4%)</td>
</tr>
<tr>
<td>Adhered tissue to the LAMS, n (%)</td>
<td>25 (15.8%)</td>
</tr>
<tr>
<td>Intact LAMS coating, n (%)</td>
<td>145 (91.8%)</td>
</tr>
</tbody>
</table>
Conclusions  Double-pigtail stents might reduce the AE risk in pancreatic collections and gallbladder drainages.

OP204V  TRANSRECTAL DRAINAGE OF ABDOMINAL ABSCESS

Authors Torres Vicente G.1, Pijoan Comas E.2,3, Miguel Salas I.1, Vargas García A.2,3, Torres Monclos N.1, Albuquerque Miranda M.2,3, Bayas Pástor D.C.1, Vázquez Gómez D.1, Zaragoza Velasco N.1, Gonzalez-Huix Lladó F.1,2

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A 74-year-old woman was admitted for acute diverticulitis with polylobulated air-fluid collection with previous failure of radiological drainage. EUS-guided transrectal drainage was performed, 19G needle punction to obtain material for culture. Access to the collection with cystotome, and path dilatation with balloon up to 12mm, a first 10Fx5cm Pigtail was placed. By direct endoscopic vision, a 3-way silicone Foley n°20 tube was placed, that remained within the cavity anchored by the balloon. A second 7Fx5cm Pigtail was placed. Continuous lavage with 1000mL/day was maintained for 3 days. After 4 days CT showed a significant reduction in the size of the collection, a new 5x10mm LAMS was placed. During endoscopy the patient presented fever and new bowel perforation. A new 15x15mm LAMS was placed. The control MRI confirmed the complete reabsorption of collection.

OP205V  ENDOSCOPIC ULTRASOUND-GUIDED DRAINAGE OF PERIRECTAL ABSCESS IN PYODERMA GANGRENOSUM

Authors Gesualdo M.1, Sacco M.1, Castellano F.1, Mauroli A.1, Finimiano F.1, Cravero F.1, De Angelis C.G.1

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The video presents a case of a 47-year-old woman with a perirectal abscess (64 mm at MRI) in pyoderma gangrenosum, with symptomatic onset of fever and sacral pain. Blood test detected high level of WBC (18,000/mm3) and mild level of C-reactive protein (9 mg/dl). Endoscopic ultrasound-guided drainage of collection was planned.

During endoscopy a 15x15 mm LAMS was placed with a drainage of purulent material; two pigtail stents were located to reduce LAMS migration. After one month a protective colostomy was performed to enhance reabsorption and subsequently the LAMS was removed. The control MRI confirmed the complete reabsorption of collection.

OP206  PREDICTORS OF SEVERE ADVERSE EVENTS AFTER ENDOSCOPIC ULTRASOUND THROUGH-THE-NEEDLE BIOPSY OF PANCREATIC CYSTS: A MACHINE LEARNING APPROACH

Authors Facciorusso A.1,2, Kovacevic B.1, Yang D.4, Vilas-Boas F.5, Martínez-Moreno B.6, Stigliano S.7, Rizzatti G.8, Sacco M.9, Arevolo-Mora M.10, Villarreal-Sanchez L.11, Conti Belloccchi M.C.2, Bernardoni L.2, Gabbrielli A.2, Barresi L.12, Gkolfakis P.13, Robles-Medranda C.10, De Angelis C.9, Larghi A.4, Di Matteo F.M.7, Aparicio J.6, Macedo G.3, Draganov P.14, Vilmann P.1, Repici A.15, Cinò S.2,5

Institutes 1 University of Foggia, Gastroenterology Unit, Department of Surgical and Medical Sciences, Foggia, Italy; 2 The Pancreas Institute, University Hospital of Verona, Department of Medicine, Gastroenterology and Digestive Endoscopy Unit, Verona, Italy; 3 Copenhagen University Hospital Herlev and Gentofte, Division of Endoscopy, Copenhagen, Denmark; 4 University of Florida, Division of Gastroenterology and Hepatology, Gainesville, United States; 5 Centro Hospitalar e Universitário de São João-Porto, Department of Gastroenterology, Porto, Portugal; 6 ISABIA, Hospital General Universitario de Alicante, Unidad de Endoscopia, Alicante, Spain; 7 Campus Bio-Medico University Hospital, Operative Endoscopy Department, Rome, Italy; 8 Fundazione PoliClinico Universitario A. Gemelli IRCCS, Digestive Endoscopy Unit, Rome, Italy; 9 AOU Città della Salute e della Scienza di Torino, Gastroenterology Division, Turin, Italy; 10 Instituto Ecuatoriano de Enfermedades Digestivas, Guayaquil, Ecuador; 11 Gastrocare, Digestive Diseases Center, Quito, Ecuador; 12 Department of Diagnostic and Therapeutic Services, IRCCS-ISMETT, Endoscopy Service, Palermo, Italy; 13 Erasme University Hospital, Department of Gastroenterology, Hepatopancreatology and Digestive Oncology, Brussels, Belgium; 14 Center of Interventional Endoscopy, AdventHealth, Orlando, United States; 15 IRCCS Humanitas Research Hospital, Department of Gastroenterology, Milan, Italy


Aims A non-negligible rate of severe adverse events (AEs) was observed with endoscopic ultrasound (EUS) through-the-needle biopsy (TTNB) of pancreatic cystic lesions (PCLs); however, predictive factors are still unknown. We aimed at identifying the hierarchic interaction among independent predictors for TTNB-related AEs and to generate a prognostic model using recursive partitioning analysis (RPA).

Methods Multicenter retrospective analysis of 506 patients with PCLs who underwent TTNB. RPA of predictors for AEs was performed and the model was validated by means of bootstrap resampling.

Results Out of 79 (15.6 %) AEs observed, 15 (3.0 %), 9 (1.8 %), and 3 (0.5 %) events were classified as moderate, severe, and fatal, respectively. Age (odds ratio [OR] 1.34, 1.07-2.04; p = 0.05), number of microforceps passes (OR from 2.13, 1.34-4.23 to OR 3.16, 2.03-6.34 with the increase of the number of passes), complete aspiration of the cyst (OR 0.55, 0.32-0.93; p = 0.02), and diagnostic of IPMN (OR 4.16, 2.27-7.69; p < 0.001) were found as independent predictors of AEs, as confirmed both in logistic regression and in random forest analysis. RPA identified three risk classes: high-risk (IPMN patients sampled with multiple microforceps passes, 29.5 % AEs rate), low-risk (5.4 % AE rate, including patients < 64 years with other-than-IPMN diagnosis sampled in no more than 2 microforceps passes and with complete aspiration of the cyst) and middle-risk class (11.5 % AEs rate, including the remaining patients).

Conclusions Patients with IPMN are at higher risk for TTNB-related AEs and should be carefully selected. The use of the present model in clinical practice could implement patient selection thus optimizing the risk/benefit of TTNB.
Advanced endoscopic resection for colorectal lesions 08:30–09:30 Club E

OP207  ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD) VERSUS PIECE-MEAL ENDOSCOPIC MUCOSAL RESECTION (EMR) FOR LARGE LATERALLY SPREADING LESIONS (LSL): FRENCH RANDOMIZED CONTROLLED TRIAL (RESECT-COLON)

Authors  Jacques J.1, Wallenhorst T.2, Chevaux J.-B.3, Lepillieze V.4, Chaussade S.5, Rivory J.5, Legros R.1, Schaef er M.3, Leblanc S.4, Rostain F.1, Barret M.3, Albouys J.1, Belle A.5, Crepin S.5, Magne J.1, Preux P.M.1, Lepetit H.1, Dahan M.1, Ponchon T.6, Ploche M.8

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Aims  The optimal endoscopic resection strategy for large LSL is debated between Japanese (ESD) and western (PM-EMR) attitudes. No randomized trial is available about this daily topic.

Methods  Multicenter, single blinded, randomized controlled trial involving 6 centers and 11 physicians comparing ESD and PM-EMR with snare tip thermal ablation of the margin for large (> 25 mm) low risk laterally spreading lesions of the colon.

The primary outcome was the recurrence rate at 6 months.

Results  359 patients were randomized between 09/15/2019 and 10/01/2021 (ESD 177, PM-EMR 182) Location in the right colon in 60.3% of cases with a mean size of 42.9 mm (+/- 16.1). There was a significant difference in recurrence at 6 months in favor of the ESD group: 0.6 % vs 5.1 % (OR 8.6 IC95 % 1.5 – 49.3; p = 0.019). Secondary endpoints:

- per procedure perforation ESD 5.6 % vs PM-EMR 2.2 %, p = 0.09
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- per procedure perforation ESD 5.6 % vs PM-EMR 2.2 %, p = 0.09

Conclusions  ESD is superior to PM-EMR regarding 6 months recurrence rate without increasing the morbidity. R0 resection exceeds 90 %, avoiding costly and unwanted follow-up colonoscopies. PM-EMR seems to be associated with a risk of loss of histological information that is detrimental to the patient.

OP208V  TREATMENT OF LATERAL SPREADING TUMOR (26CM) WITH ENDOSCOPIC SUBMUCOSAL DISSECTION: SINGLE TUNNEL TECHNIQUE

Authors  Aslan F.1, Taskin O.C.2, Gokce K.1, Gurses B.1, Ak A.B.1, Manici M.4

Institutes 1 Koc University Hospital, Gastroenterology, Istanbul, Turkey; 2 Koc University Hospital, Pathology, Istanbul, Turkey; 3 Koc University Hospital, Radiology, Istanbul, Turkey; 4 Koc University Hospital, Anesthesiology and Reanimation, Istanbul, Turkey


An 81-year-old male patient presented to clinic with diarrhea, nausea, vomiting, hypokalemia, prerenal acute kidney injury. On colonoscopy flat-granular-polyoid lesion was detected, starting from anal canal at 1 cm extending proximally approximately 20 cm. There was no sign of invasion on chromoscopy, MRI and endoscopic ultrasonography. Patient was treated with ESD. A single tunnel from anal canal towards proximal side of the lesion was made. The lesion was removed en bloc after lateral incisions. The externalized lesion was measured as 262 mm * 166 mm. The procedure duration was 186 minutes. The lesion was reported as villous adenoma with multifocal intramuscosal carcinoma, all margins were clear.

OP209  PREDICTION OF RESIDUAL NEOPLASIA AFTER A NON-CURATIVE COLORECTAL ESD: A MULTI-CENTER, MULTINATIONAL STUDY

Authors  Santos-Antunes J.1, Ploche M.2, Ramos-Zabala F.3, Cecinato P.4, Gallego F.3, Barreiro P.4, Félix C.5, Serrazza S.3, Berri F.4, Wagner A.4, Lemmers A.3, Figueiredo M.3, Albéniz E.3, Uchima H.1, Kuttner-Magalhães R.1,2, Fernandes C.1, Morais R.1, Gupta S.4, Marques M.1, Bourke M.1, Macedo G.7

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Aims  To assess the rate of residual lesion in the surgical specimen or during the endoscopic follow-up after a non-curative colorectal ESD, and to establish predictive scores to be applied in the clinical setting.

Methods  Retrospective multicenter analysis of ESDs performed in epithelial colorectal lesions. Patients with non-curative ESDs that had been submitted to complementary surgery or had at least one follow-up endoscopy were included.

Results  From 2214 colorectal ESDs, 340 were included. Residual lesion was observed in 40 (12 %) patients. Surgery was performed in 99 patients, and 76 (77 %) had no residual lesion in the colorectal wall or lymph node metastasis (LNM). Residual lesion rate for SM1 cancers was 0 %; rate of residual lesion for SM1 cancers was also 0 % if no other risk factors were present. Independent risk factors for LNM were poor differentiation and lymphatic permeation (NC-Lymph score). Patients scoring 0, 1, 2 or 3 had a 5 %, 25 %, 60 % and 100 % chance of LNM (p < 0.001). Risk factors for residual lesion in the wall was colonic location and positive vertical margin (NC-Wall score). Patients with NC-Wall 0 had a 0 % chance of residual lesion in the wall, raising to 6.7 % in NC-Wall 1 and 33.3 % with NC-Wall 2, p < 0.001.

Conclusions  The presence of lymphatic permeation or poor differentiation in the ESD specimen warrants surgery due to the high risk of LNM. Colonic lesions with positive vertical margin had the highest risk of residual lesion in the wall. Our scores can be a useful tool for the management of patients submitted to non-curative colorectal ESDs.
OP210V  THE NEEDLE-INCISION-SNARE TECHNIQUE USING A SINGLE INJECTION-SNARE DEVICE FOR KNIFE-ASSISTED RESECTION (EMR-ESD HYBRID ENDOSCOPIC RESECTION)

Authors  Mönkemüller K.1, Hornung F.1, Hamm A.1, Fiedler J.1, Naewie A.1, Martinez-Alcalá A.1

Institute 1 Ameos University Teaching Hospital, Gastroenterology, Halberstadt, Germany


Advanced endoscopic resection encompasses the utilization of injection needle to create the submucosal cushion followed by incision using a needle, and dissection using a knife. We have developed a technique using a single device for accomplishing hybrid EMR-ESD. This approach using a single device to perform advanced resection is practical as it saves time, as injection is immediately available, followed by incision and dissection using the snare’s metal tip, for final in toto excision of the specimen with the snare. This device and technique have the potential of improving the acceptance and performance of ESD or ESD-EMR hybrid procedures worldwide.

OP211  THE SIZE, MANOEUVRABILITY, SITE, HISTOLOGY SCORE (SMSH)—A NEW TOOL FOR PREDICTING THE OUTCOMES OF COLORECTAL ENDOSCOPIC SUBMUCOSAL DISSECTION

Authors  Juglard C.1, Lambin T.2, Wallenhorst T.3, Lepiliez V.4, Schaef er M.1, Degand T.5, Chaus sade S.1, Rahimi C.8, Le B aule Y.5, Legros R.1, Al bouys J.1, Rivory J.10, Chevaux J.1, B eblanc S.1, Rostain F.10, Lepetit H.1, Dahan M.1, Barret M.1, Hall et P.1, Perrod G.9, Ponchon T.10, Pijoan Comas M.2, Jacques J.1

Institutes 1 CHU Dupuytren, Service d’Hépato-Gastro-Entérologie, Limoges, France; 2 CHU Eduard Herriot, Service d’Hépato-Gastro-Entérologie, Lyon, France; 3 CHU Pontchaillou, Rennes, France; 4 Hôpital Privé Jean Mermoz, Lyon, France; 5 CHRU Nancy, Nancy, France; 6 CHU Dijon Bourgogne, Dijon, France; 7 CHU Cochin, Paris, France; 8 Hôpital Européen Georges Pompidou, Paris, France; 9 Hôpital Privé Saint Joseph, Paris, France; 10 Hôpital Edouard Herriot, Lyon, France


Aims  Despite its undeniable carcinologic advantages, endoscopic submucosal dissection (ESD) has not replaced piecemeal endoscopic mucosal resection in Western countries because of the technical difficulty, long procedure duration, high complication rate, and steep learning curve. Differentiation of easy and difficult lesions would promote use of ESD. The objective of this study was to try to create a score that predict outcomes after colorectal ESD for large superficial lesions.

Methods  We considered R0 resection without perforation (ESD success) as the primary endpoint. Independent risk factors identified in a multivariate analysis of a large prospective monocentric derivation cohort were used to create the SMSH score, which was validated in an independent prospective French multicentre validation set.

Results  The derivation and validation sets comprised 738 and 1,042 lesions, respectively. The SMSH score comprised four pre-procedural risk factors: tumour size, manoeuvrability, tumour location, and lesion history. The probability of ESD success in the easy (SMSH1; total score < 4 points), average (SMSH2; 4–7 points), difficult (SMSH3; 8–12 points), and very difficult (SMSH4; > 12 points) categories was 89%, 85%, 77%, and 65% in the derivation set (p < 0.001), and 89%, 87%, 76%, and 53% in the external validation set (p < 0.001), respectively.

Conclusions  The SMSH score, based on pre-procedural data, predicts ESD success for colorectal lesions and identifies easy lesions suitable for trainees and difficult lesions that should be reserved for expert centres.

OP212V  GIANT RECTAL ADENOMAS PRESENTING WITH MCKITTRICK-WHEELOCK SYNDROME. SERIES OF THREE CASES SUCCESSFULLY TREATED BY ENDOSCOPIC SUBMUCOSAL DISSECTION AT A TERTIARY REFERRAL CENTER

Authors  Tormo Lanseros B.1, Santiago García J.1, de Frutos Rosa D.1, Martín Rodríguez D.2, Botella Mateu B.2, Dotor de Lama A.M.3, Valentin Gomez F.1, Herreros de Tejada Echanoveauxu A.1

Institutes 1 Puerta de Hierro University Hospital, Gastroenterology, Majadahonda, Spain; 2 Infanta Cristina University Hospital, Gastroenterology, Parla, Spain; 3 Puerta de Hierro University Hospital, Anatomic Pathology, Majadahonda, Spain


Three patients with chronic diarrhea and severe blood tests abnormalities underwent an endoscopic examination that revealed three giant (> 10 cm) tubulovillous adenomas in the rectum. This clinical presentation was consistent with a McKittrick-Wheelock syndrome (MWS). Surgical treatment is the first line option in most reported series. For these cases, ESD was planned and successfully performed without significant complications. En-bloc resection was achieved in 100% of cases. After 12 months of follow-up no recurrence was noted. Symptoms and blood tests abnormalities completely disappeared after the endoscopic treatment was performed. ESD can be considered as a very effective treatment option for MWS.

Artificial intelligence pushing the endoscopist’s skills

Saturday, 30 April 2022

Club H

08:30–09:30

OP213  EXPERTS ENDOSCOPY VS. ARTIFICIAL INTELLIGENCE IN THE EVALUATION OF UNDETERMINE BILIARY STRUCUTURES IN CHOLANGIOSCOPY: A MULTICENTER, BLINDED, NESTED CONTROLLED TRIAL

Authors  Robles-Medranda C.1, Alcivar-Vasquez J.1, Kahaleh M.2, Rajmain L.1, Tyberg A.7, Sarkar A.2, Shahid H.2, Mendez J.C.9, Rodriguez J.1, Merfea R.C.1, Barreto Perez J.1, Arevolo-Mora M.1, Puga-Tejada M.1, Calle-Loftredo D.1, Alvarado H.1, Lukashov H.P.1

Institutes 1 Instituto Ecuatoriano de Enfermedades Digestivas, Guayaquil, Ecuador; 2 Robert Wood Johnson Medical School Rutgers University, New Brunswick, United States; 3 Houston Methodist Hospital, Houston, United States; 4 Baylor Saint Luke’s Medical Center, Houston, United States; 5 Department of Advanced Interventional Endoscopy, Universitarios Ziekenhuis Brussel (UBZ)/Vrije Universiteit Brussel (VUB), Brussels, Belgium; 6 Mdconsgroup, Artificial Intelligence Department, Guayaquil, Ecuador


Aims  Digital single-operator cholangioscopy (DSOC) findings achieve high diagnostic accuracy for neoplastic bile duct lesions; however, endoscopists’ intra and interobserver agreements vary widely. We have recently proposed an AI model to classify bile duct lesions during real-time DSOC and currently pursue clinical validation of our AI model, compared with high DSOC experienced endoscopists.

Methods  Multi-center diagnostic trial. Four DSOC experts endoscopists (blinded to digital videos) and one were observing digital videos of DSOC experts and the AI software (Mdconsgroup, Guayaquil, Ecuador). The neoplastic bile duct criteria are in accordance with the Robles-Medranda et al and the Mendoza classifications. The experts assessed neoplastic bile duct by presence or absence of disaggregated criteria. Likewise, the statistical software computed disaggregated answers. The final diagnosis of malignancy was based on histological results, and 1-year clinical follow-up outcomes.

NCT05147389.
Results A total of 170 videos from 170 patients from 4 different centers were analyzed with the AI model. There was an equal distribution among neoplastic and non-neoplastic DOCS diagnosis (Table 1). DSOC AI software achieved statistically significant accuracy values ($p < 0.001$) for neoplastic diagnosis with $\geq 90\%$ sensitivity, $\geq 68\%$ specificity, $\geq 65\%$ positive and $\geq 83\%$ negative predictive values (Figure 1) when compared with endoscopist expert.

Conclusions The proposed AI model accurately recognized between neoplastic and non-neoplastic bile duct lesions with good accuracy, being statistically significant over experts in DSOC. This model may shorten learning curves time in less experienced endoscopists, while attaining accurate biliary lesion recognition skills.

Table 1 Baseline data stratified by neoplasia confirmation during one-year follow-up.

<table>
<thead>
<tr>
<th></th>
<th>Total (N = 170)</th>
<th>Neoplasia (N = 85)</th>
<th>Non-neoplasia (N = 85)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years), median (IQR)</td>
<td>62.5 (57.0 – 68.8)</td>
<td>64.0 (59.0 – 71.0)</td>
<td>59.0 (52.0 – 65.0)</td>
</tr>
<tr>
<td>Gender (female), n (%)</td>
<td>79 (46.5)</td>
<td>45 (52.9)</td>
<td>34 (40.0)</td>
</tr>
</tbody>
</table>

Visual Impression – DOCS diagnosis, (%)
- Non-Neoplasia
  - Neoplasia
  - Neoplasia Biopsy diagnosis, (%)
  - Non-neoplasia Biopsy diagnosis, (%)

Conclusions We developed a CNN-based model for automatic classification of bowel preparation in CE. The development of these automated systems may improve the reliability and reproducibility of bowel preparation scales in CE.

Table 1

<table>
<thead>
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<th>Expert classification</th>
<th>Excellent</th>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
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<tr>
<td>Neuronal network</td>
<td>311</td>
<td>9</td>
<td>2</td>
</tr>
</tbody>
</table>

Conclusions We developed a CNN-based model for automatic classification of bowel preparation in CE. The performance of the CNN was evaluated.

Aims Capsule endoscopy (CE) allows non-invasive inspection of the small bowel. An adequate bowel preparation is crucial for a conclusive exam. The application of artificial intelligence (AI) algorithms to endoscopy has produced promising results. Convolutional neural networks (CNNs) are a highly efficient architecture designed for image analysis. To date, no AI-based model has been developed for evaluation of bowel preparation in CE. We aimed to develop a deep learning model for automatic classification of bowel preparation in CE.

Methods We developed a CNN-based on CE images. Each frame was labelled according to the quality of bowel preparation (excellent (E): $\geq 90\%$ of visible mucosa; satisfactory (S): $50$-$90\%$ of visible mucosa; unsatisfactory (U): $<50\%$ of visible mucosa). A training dataset and a validation dataset, comprising $80\%$ and $20\%$ of the total pool of images, respectively, were constructed. The CNN’s output was compared to the classification provided by the experts. The performance of the CNN was evaluated.

Results A total of 5070 images were included: 1570 labelled as E, 2150 as S and 1350 as U. The model had an overall accuracy of $94.3\%$, a sensitivity of $93.6\%$, a specificity of $93.6\%$, a PPV of $92.6\%$ and NPV of $95.7\%$ for differentiation of classes of bowel preparation (Table 1). The AUC for E, S and U classes was $1.00, 0.96, 0.97$, respectively.

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Conclusions We developed a CNN-based model for automatic classification of bowel preparation in CE. The development of these automated systems may improve the reliability and reproducibility of bowel preparation scales in CE.

OP214 ARTIFICIAL INTELLIGENCE AND CAPSULE ENDOSCOPY: AUTOMATIC CLASSIFICATION OF SMALL BOWEL PREPARATION USING A CONVOLUTIONAL NEURAL NETWORK

Authors Ribeiro T.1, Mascarenhas Saraiva M.J.1, Afonso J.1, Andrade P.1, Cardoso H.1, Ferreira J.2, Mascarenhas Saraiva M.2, Macedo G.1

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Aims Capsule endoscopy (CE) allows non-invasive inspection of the small bowel. An adequate bowel preparation is crucial for a conclusive exam. The application of artificial intelligence (AI) algorithms to endoscopy has produced promising results. Convolutional neural networks (CNNs) are a highly efficient architecture designed for image analysis. To date, no AI-based model has been developed for evaluation of bowel preparation in CE. We aimed to develop a deep learning model for automatic classification of bowel preparation in CE.

Methods We developed a CNN-based model for automatic classification of bowel preparation in CE. The performance of the CNN was evaluated.

Results A total of 5070 images were included: 1570 labelled as E, 2150 as S and 1350 as U. The model had an overall accuracy of $94.3\%$, a sensitivity of $93.6\%$, a specificity of $93.6\%$, a PPV of $92.6\%$ and NPV of $95.7\%$ for differentiation of classes of bowel preparation (Table 1). The AUC for E, S and U classes was $1.00, 0.96, 0.97$, respectively.
Aims  Computer-aided diagnosis (CADx)-systems could improve optical diagnosis of colorectal polyps (CRPs) by endoscopists. For integration into clinical practice, better understanding of artificial intelligence (AI) is needed. A branch of deep learning and explainable AI is automatically generating textual descriptions from images to improve understanding. We aimed to develop a CADx-system generating automatic textual descriptions for CRPs based on Blue Light Imaging (BLI) Adenoma Serrated International Classification (BASIC)[1].

Methods  Training data contained 35 hyperplastic polyps, 12 sessile serrated lesions (SSLs) and 48 adenomas, with 6525 corresponding textual descriptions by endoscopists. Testing data contained 15 hyperplastic polyps, three SSLs, 36 adenomas, and one colorectal carcinoma. Both databases consisted of High Definition White Light (HDWL), BLI, and Linked Color Imaging (LCI) images. CADx’s 165 generated descriptions were compared to 1857 descriptions from nineteen endoscopists. References not matching histological diagnoses were excluded. The Recall Oriented Understudy for Gisting Evaluation Longest common subsequence (ROUGE-L) score measured the longest word segment in generated descriptions corresponding with reference descriptions.

Results  A CADx-system generating automatic textual descriptions of CRP features was successfully developed (Figure 1). ROUGE-L scores (%) per category were: Complete sentence 83%, BASIC descriptors 70%, Morphology & size 89%, Surface 92%, Pit pattern 85%, and Vessels 59% (Table 1).

Conclusions  This study demonstrates that a CADx-system for automatic textual description of CRPs is feasible and performed acceptably. Descriptions can help endoscopists comprehend reasoning behind CADx-diagnoses and therefore raise acceptance of CADx use in clinical practice. Especially the performance for vessel description needs improvement before implementation into clinical practice.

OP216  CHANGES IN EXAMINER BEHAVIOR CAUSED BY A COMPUTER-AIDED SYSTEM FOR POLYP DETECTION

Authors  Troya J.1, Fitting D.1, Brand M.1, Sudarevic B.1, Kather J.N.2, Meining A.1, Hann A.1

Institutes  1 University Hospital Würzburg, Interventional and Experimental Endoscopy (InExEn), Internal Medicine II, Würzburg, Germany; 2 University Hospital RWTH Aachen, Department of Medicine III, Aachen, Germany


Aims  Multiple computer-aided systems for polyp detection (CADe) are currently introduced into clinical practice, with an unclear effect on examiner behavior. In particular, false positive detections could lead to prolonged examination time due to frequent misinterpretations of normal mucosa. In this work, we aimed to measure the influence of a CADe system on reaction time, mucosal misinterpretations, and changes in visual gaze pattern.

Methods  Participants with different levels of colonoscopy experience were assigned to examine short video sequences while eye movement was tracked. Videos comprised 17 sequences containing polyps and 12 sequences containing false positive activations of different lengths. Using a crossover design, videos were presented in two assessments with and without CADe (GI Genius, Medtronic) support. Reaction time for polyp detection, misinterpretation of normal mucosal surfaces, and eye-tracking metrics were evaluated.

Results  21 participants performed a total of 1218 experiments. The CADe system was significantly faster in detecting polyps (1.16 sec) compared to the users (p < 0.001). However, the reaction time of the user with or without the CADe system was similar (2.90 sec vs 2.97 sec, p = 0.678). Participants falsely identified a polyp in a median of 4 cases without CADe and 6 cases with CADe support. Eye traveling distance was significantly reduced with the use of the CADe system.

Conclusions  This work confirms that CADe systems detect polyps faster than humans. In addition, the CADe system led to increased misinterpretations of normal mucosa and decreased eye travel distance. Possible consequences of these findings are prolonged examination time and deskilling.

OP217  TOWARDS AUTOMATIC DETECTION IN PANCREATIC EUS: AN ASSESSMENT OF DEEP LEARNING METHODS

Authors  Sosa-Valencia L.1, Fleurentin A.2, Meyer A.2, Montanelli J.2, Mazelier J.-P.2, Swansström L.2, Gallix B.2, Exarchakis G.2, Padoy N.1

Institutes  1 IHU, EUS, Strasbourg, France; 2 IHU, Strasbourg, France


Aims  Pancreatic cancer is rarely detected at its early stages, when it’s curable, which leads to high mortality rates. Endoscopic ultrasound (EUS) is the best technique nowadays to detect pancreatic cancer lesions smaller than 10 mm, which are amenable for surgical resection and potential cure. However, this procedure requires demanding technical skills to properly navigate and interpret the images obtained. This study assesses the potential of artificial intelligence to localize anatomical structures in such images to provide decision support to clinicians.

Methods  We collected 44,758 frames with annotated region of interest of pancreas, echogenicity and solid or cystic lesions from 50 patients who had an EUS procedure in a tertiary referral French center from October 2018 to October 2021. Multiple Deep learning (DL) models were trained to localize annotated structures and evaluated following a 5-fold cross validation approach in a per-patient analysis.
Results

Table 1

<table>
<thead>
<tr>
<th>Models</th>
<th>Parameters</th>
<th>Parenchyma</th>
<th>Lesion</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>RetinaNet</td>
<td>39.2M</td>
<td>48.28 ± 8.54</td>
<td>44.17 ± 9.12</td>
<td>46.29</td>
</tr>
<tr>
<td>Faster R-CNN</td>
<td>27.3M</td>
<td>44.98 ± 9.13</td>
<td>41.56 ± 8.91</td>
<td>43.23</td>
</tr>
<tr>
<td>Faster R-CNN + FPN</td>
<td>41.5M</td>
<td>51.15 ± 6.76</td>
<td>46.17 ± 4.43</td>
<td>50.20</td>
</tr>
</tbody>
</table>

Faster Region-CNN achieves the best results with a precision of 59.7 %, a sensitivity of 60.3 % and an f1-score of 59.7 % on targeted objects while failure to detect a structure is limited to only 4 % of the procedures.

Conclusions

We validated the ability of DL based models to localize pancreatic parenchyma and lesions in EUS, with the potential to improve diagnosis in pancreatic cancer. Providing gastroenterologists with augmented EUS could lead to more accurate and easier diagnosis. This might help to increase survival rates by detecting early tumors plausible for surgical treatment, as well as properly identifying advanced lesions avoiding unnecessary surgeries and allowing the rapid setup of adjuvant treatments.

OP218 AUTOMATED MEASUREMENT OF COLONOSCOPY WITHDRAWAL TIME USING CONVOLUTIONAL NEURAL NETWORKS

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Aims Withdrawal time (WT) is defined as the time taken from reaching the caecum to exiting the anal canal minus time spent cleaning and performing interventions. Recent years have demonstrated the potential of artificial intelligence (AI) to detect caecal landmarks, however, its ability to detect phases of withdrawal is unexplored.

We aimed to develop convolutional neural networks (CNN) to detect cleaning and interventional phases of withdrawal.

Methods Endoscopy videos were collected prospectively. After the appendicular orifice or ileocaecal valve were first detected, individual frames were annotated with image-level labels.

The first frame an instrument was visualised during polypectomy up until the end of inspecting post-resection margins and biopsies was labelled as ‘intervention’. Frames during suctioning of colonic content or washing were labelled as ‘cleaning’. The remaining frames were labelled ‘withdrawal’ frames. Two ResNet-101 CNNs pre-trained on ImageNet were developed to detect the phases of cleaning and intervention.

Results 87 endoscopy videos and 1,288,319 frames during withdrawal were annotated (Table 1). The procedures were split into training (70 %), validation (10 %) and testing (~20 %) with no overlap of patients. Evaluated against a test-set of 17 videos, the CNNs identified the interventional frames with 92.4 % sensitivity and 95.8 % specificity. For cleaning, the sensitivity was 83.0 % and specificity 89.5 %.

The mean WT was 8.51 (minutes:seconds). The absolute mean error of the AI predicted WT was 39 seconds per procedure. The CNNs correctly categorised 16/17 procedures (94 %) as below or above 6 minutes.

Table 1

<table>
<thead>
<tr>
<th>Models</th>
<th>Withdrawal frames</th>
<th>Cleaning frames</th>
<th>Intervention frames</th>
<th>Total frames</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame count</td>
<td>437,359</td>
<td>232,384</td>
<td>618,576</td>
<td>1,288,319</td>
</tr>
</tbody>
</table>

Conclusions We demonstrated the feasibility of CNNs to differentiate the phases of withdrawal to measure WT.
Methods This international, multicenter, prospective study aims to include 141 patients (T1b EAC R0 N0 M0) with 5-year FU. Patients undergo gastroscopy and EUS every 3 months (year 1 and 2), then every 6 months (year 3 and 4) and annually thereafter. The cohort was divided into high-risk (invasion ≥ 500μm, G3-4 and/or LVI+) and low-risk (<500μm, G1-2 and LVI-). Outcome parameters: 5-year disease-specific survival, overall survival, rate of lymph node metastasis (LNM) and local recurrence. Results 50 high-risk and 29 low-risk patients (66 men, median 70yo) were included (median FU 19 (IQR 11-30) months). Three patients (4% [95% CI 0-8.1]) developed LNM: 2/50 high-risk (4% [95% CI 0-9.6]) and 1/29 low-risk (4% [95% CI 0-10.5]). Two patients underwent neoadjuvant chemoradiotherapy with esophagectomy (ypT0N0M0 and ypT0N1M0). One patient underwent selective surgical LN resection. Four patients (5% [95% CI 0-10.0]) developed an intra-luminal recurrence not amenable to endoscopic re-treatment: 3 (50 high-risk [6% [95% CI 0-12.8]) and 1/29 low-risk (4% [95% CI 0-10.5]). Two patients underwent esophagectomy (pT1bN0M0 and pT1bN1M0). Two patients refused treatment. No distant metastases were diagnosed. Two patients died (not EAC-related). One patient discontinued FU (old age).

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 79</td>
</tr>
<tr>
<td>High-risk T1b (N = 50)</td>
</tr>
<tr>
<td>Low-risk T1b (N = 29)</td>
</tr>
</tbody>
</table>

Conclusions Early data suggest that after radical endoscopic resection of T1b EAC, a strict endoscopic FU protocol is feasible and curative surgery remains possible in case of LNM (4%) or local recurrence (5%) during FU.

OP221 FOCAL CRYOBALLOON ABLATION WITH 8SEC DOSE HAS SIMILAR EFFICACY AS 10SEC FOR TREATMENT OF BARRETT'S ESOPHAGUS RELATED NEOPLASIA

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Aims Focal cryoballoon ablation (FCBA) is currently investigated for treatment of Barrett’s esophagus (BE) related neoplasia in a European multicenter study (Euro-Coldplay; NTR NL7253). After inclusion of 28/107 patients, the initial dose of 10sec was lowered to 8sec. In this current study, we compared the efficacy and safety of single FCBA treatment with 10sec versus 8sec in patients with limited BE (C ≤ 2/M ≤ 5).

Methods All 28 patients treated with 10sec were compared with the first 28 patients treated with 8sec. Treatments were performed by trained endoscopists in 7 Barrett referral centers. The gastroesophageal junction was ablated cir-
cumferentially followed by all visible BE. To assess efficacy after a single FCBA, three expert adjudicators, blinded for treating physician and dosages, compared pre- and post-treatment images. Outcomes included median BE surface regression and stricture rate.

**Results**

We included 56 patients (10sec n = 28, 8sec n = 28) with a median BE of C0M2 and comparable baseline characteristics. FCBA was technically successful in 27/28 (96%) patients for both cohorts. The median BE surface regression was comparable for 10sec and 8sec (80% [95%CI 75-90] and 80% [95%CI 66-90]), respectively; p = 0.65. Strictures requiring dilation were seen in 19% [95%CI 4-33] and 15% [95%CI 4-30] of the 10sec and 8sec group respectively (p = 1.00). Two patients among the 10sec group developed a severe stricture requiring > 3 dilations.

**Table 1** Pre-protocol analysis of primary outcomes after single FCBA treatment.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>10sec (n = 27)</th>
<th>8sec (n = 27)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median BE surface regression</td>
<td>80 (75-92)</td>
<td>80 (59-92)</td>
<td>0.65</td>
</tr>
<tr>
<td>Stricture requiring dilation, n (%)</td>
<td>5 (19)</td>
<td>4 (15)</td>
<td>1.00</td>
</tr>
<tr>
<td>Severe stricture requiring &gt; 3 dilations, n (%)</td>
<td>2 (7)</td>
<td>0 (0)</td>
<td>0.44</td>
</tr>
<tr>
<td>Number of dilations, median (range)</td>
<td>1 (1-8)</td>
<td>2 (1-3)</td>
<td>0.78</td>
</tr>
</tbody>
</table>

1For Mann-Whitney U test, Chi-squared test or Fisher’s exact test.
2Not assessable in one patient (8sec) due to missing pre-treatment images.

**Conclusions**

In limited BE, single-session FCBA with 8sec has shown similar efficacy as compared to 10sec, and may theoretically result in less and less severe strictures. Therefore, further study into using 8sec dosing is recommended.

**OP222**

THE COURSE OF PAIN AND DYSPHAGIA AFTER RADIOFREQUENCY ABLATION FOR BARRETT’S ESOPHAGUS AFTER MUCOSAL RESECTION AND RADIOFREQUENCY ABLATION – A SALVAGE AND DEFINITIVE TREATMENT APPROACH?

**Authors**

O’Neill C.1, Barreiro P.1,2, Mendo R.1, Mascarenhas A.1, Franco A.R.1, Félix C.1, Pinto D.1, Castela J.1, Chagas C.1

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**DOI**

10.1055/s-0042-1744787

77-year-old woman with CSM6 Barrett’s esophagus (BE) and progressive high grade dysplasia (HGD) visible lesions despite sequential endoscopic mucosal resection procedures and radiofrequency ablation of the remaining BE. The patient was referred to our department for endoscopic submucosal dissection (ESD). Regardless of extensive scarring and submucosal fibrosis from previous procedures, en-bloc circumferential excision of a 6cm-length segment encompassing all the dysplastic lesions was successfully achieved. Histological showed extensive HGD, completely resected.

ESD as salvage therapy for BE-related dysplasia or neoplasia is feasible for achieving en-bloc and R0 resection for larger or poorly lifting lesions because of scarring, with an acceptable safety profile.

**OP224V**

CIRCUMFERENTIAL ENDOSCOPIC SUBMUCOSAL DISSECTION FOR REFRACTORY DYSPLASTIC BARRETT’S ESOPHAGUS AFTER MUCOSAL RESECTION AND RADIOFREQUENCY ABLATION – A SALVAGE AND DEFINITIVE TREATMENT APPROACH?

**Authors**

O’Neill C.1, Barreiro P.1,2, Mendo R.1, Mascarenhas A.1, Franco A.R.1, Félix C.1, Pinto D.1, Castela J.1, Chagas C.1

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**Decision making and performing ESD for colorectal lesions**

Saturday, 30 April 2022

10:00–11:00

**OP225**

OUTCOMES AND PREDICTIVE FACTORS OF SUBMUCOSAL FIBROSIS IN COLORECTAL ENDOSCOPIC SUBMUCOSAL DISSECTION: A PROSPECTIVE INTERNATIONAL STUDY

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**DOI**

10.1055/s-0042-1744788

Endoscopic submucosal dissection (ESD) enables en-bloc resection of large colorectal lesions. Submucosal fibrosis is a major feature for technical
OP226V CLIP WITH RUBBER BAND MODIFICATION FOR DYNAMIC TRACTION IN COLONIC ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD)

Authors Alves da Silva J.1, Faldeo D.1, Ponte S.1, Marcos-Pinto R.1, Pedrato I.1, Kottner-Magalhães R.1
Institute 1 Centro Hospitalar Universitário do Porto, Porto, Portugal

63-year-old-woman referred to ESD due to 40-mm-laterally-spreading-tumor, nongranular, Paris 0-Ila, JNET-type-2B, consistent with residual lesion from previous resection, with tattoo adjacent, in the descending colon. Partial muscular incision was done. Inadequate submucosal layer exposure was noted despite pocket-creation method and underwater strategy. After complete circumferential incision, a clip grasping a rubber-band with nylon rings (hand-made with fishing line) attached, was applied to the lesion. One nylon ring was grasped, secured to the opposite wall, and then cut with a loop cutter after ESD. Another clip grasping a remaining ring was applied in a different location in the colonic wall, readjusting traction.

OP227 ENDOSCOPIC SUBMUCOSAL DISSECTION OR PIECEMEAL ENDOSCOPIC MUCOSAL RESECTION FOR LARGE SUPERFICIAL COLORECTAL LESIONS: COST-EFFECTIVENESS IN THE ERA OF SYSTEMATIC COUNTERTRACTION

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Aims Endoscopic management is preferred to surgical management for large superficial colorectal lesions. However, the optimal endoscopic resection strategy for large superficial colorectal lesions (piecemeal endoscopic mucosal resection [pEMR] or endoscopic submucosal dissection [ESD]) is debated in particular from an economical point of view.

Methods A model was created to compare the cost-effectiveness of ESD and pEMR according to optical diagnosis (Japan NBI Expert Team [JNET], laterally spreading tumour [LST], CONECC). We distinguished three groups from the same multicentre ESD cohort and compared the medical and economic outcomes: real-life ESD data (U-ESD) compared to modelled selective ESD (5-E5 NET; S-ESD LST; S-ESD CONECC) and exclusive pEMR strategies (U-EMR).

Results The en-bloc, R0, and curative resection rates were 97.5%, 86.5%, and 82.6%, respectively in the real life ESD cohort of 833 colorectal lesions. U-ESD was the least-expensive strategy, with a total cost of management of 2,858,048.17 €, i.e. 3,431.03 €/patient and was also the most effective strategy because it avoided 774 surgeries, which was more than any other strategy. It outperformed S-ESD CONNECT (total cost of management = 2,951,411.44 €, and 3,543.11 €/patient, 765 surgeries avoided), S-ESD LST (total cost of management = 3,055,951.53 €, and 3,668.61 €/patient, 749 surgeries avoided), and S-ESD NET (total cost of management = 3,547,426.97 € and 4,258.62 €/patient, 704 surgeries avoided) and U-EMR (total cost of management = 4,060,547.62 € and 4,874.61 €/patient, 620 surgeries avoided).

Conclusions In the era of clip-and-rubber-band countertraction, ESD for all large LSTs is more cost-effective than pEMR and S-ESD.
The panel consultation platform was initiated in the northwestern region of the Netherlands.

**Methods** We initiated a regional expert panel in the northwestern region of the Netherlands for patients with complex colorectal polyps and studied the implementation, adaption and clinical impact. All panel consultations between June 2019 and May 2021 were analyzed and user satisfaction among panel members was evaluated.

**Results** Eighty-eight patients with complex colorectal polyps from eleven of fifteen participating centers (73.3%) were discussed in our panel. The most common reason for panel consultation was suspicion of invasive cancer in 36.4% (n = 32).

After panel consultation, 43.2% (n = 38) of the consulting endoscopists changed their initial treatment strategy, and in 63.6% (n = 56) patients were referred to another endoscopy center. Of 26 cases submitted with a primary proposal for surgical treatment, surgery was avoided in seven (26.9%). User satisfaction was rated high in majority of participating centers (91.7%).

**Conclusions** Our study shows that implementation and consultation of a regional expert panel can be a valuable tool to guide and optimize treatment of complex colorectal polyps and facilitate interhospital referrals in a regional network.

**OP231 COMPARISON BETWEEN ENDOSCOPIC ULTRASOUND-GUIDED FINE-NEEDLE BIOPSY AND BITE-ON-BITE JUMBO BIOPSY FOR SAMPLING OF SUBEPITHELIAL LESIONS**

**Authors** Facciorussolo A.1, 2, Crimi S.F.C.1, Ramai D.1, Ofisu A.4, Muscatiello N.1, Mangiapillano B.3, Lamonaca L.1, Lisotti A.3, Fusaroli P.3, Collakakis P.2, Stasi E.8, Samanta J.7, Dhar J.3, Cotsoglio C.12, Londolo Castillo J.11, Antonini F.11

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**DOI** 10.1055/s-0042-1744794

**Aims** A direct comparison between endoscopic ultrasound (EUS) fine-needle biopsy (FNB) and current endoscopic biopsy techniques in patients with subepithelial lesions (SELs) is still lacking. Aim of this multicenter study was to compare the diagnostic performance and safety profile between EUS-FNB and bite-on-bite jumbo biopsy.

**Methods** Out of 416 patients undergoing endoscopic sampling of SELs between 2017 and 2021, after propensity score matching two groups were compared: 120 undergoing EUS-FNB and 120 sampled with bite-on-bite jumbo biopsy. Primary outcome was sample adequacy. Secondary outcomes were diagnostic accuracy, sensitivity, specificity, and adverse events.

**Results** Median age was 61 years and most patients were male in both groups. Final diagnosis was GIST in 65 patients (54.1%) in the EUS-FNB group and 62 patients in the bite-on-bite biopsy group (51.6%; p = 0.37). Sample adequacy was significantly higher in the EUS-FNB group as compared to the bite-on-bite biopsy group (94.1% versus 77.5%, p < 0.001). EUS-FNB outperformed bite-on-bite biopsy also in terms of diagnostic accuracy (89.3% versus 67.1%, p < 0.001) and sensitivity (89% vs 64.5%; p < 0.001), whereas specificity was 100% in both groups (p = 0.89). These findings were confirmed in subgroup analysis according to SEL location, final diagnosis, and wall layers of the sampled SEL. Adverse event rate was 6.6% in the EUS-FNB group and 30% in the bite-on-bite biopsy group (p < 0.001).

**Conclusions** EUS-FNB outperforms bite-on-bite biopsy both in terms of diagnostic yield and safety profile.

**OP232 EUS-GUIDED LIVER BIOPSY SCORES OVER RADIOLOGY GUIDED PERCUTANEOUS LIVER BIOPSY: A MULTICENTER RANDOMISED CONTROLLED TRIAL**


**Institutes** 1 Postgraduate Institute of Medical and Research, Gastroenterology, Chandigarh, India; 2 Asian Institute of Gastroenterology, Gastroenterology, Hyderabad, India; 3 Postgraduate Institute of Medical and Research, Radiology, Chandigarh, India; 4 Asian Institute of Gastroenterology, Radiology, Hyderabad, India; 5 Postgraduate Institute of Medical and Research, Pathology, Chandigarh, India; 6 Asian Institute of Gastroenterology, Pathology, Hyderabad, India

**DOI** 10.1055/s-0042-1744795

**Aims** Liver biopsy can be performed by the traditional percutaneous radiology guided route (PC-LB) or under endoscopic ultrasound guidance (EUS-LB) and limited data exist on the comparison between the two and hence this study was planned.

**Methods** This is a parallel-group, single-blinded, randomized controlled trial conducted at two tertiary care centers in India from July 2020-August 2021. Consecutive patients requiring liver biopsy were randomized into either the EUS-LB or the PC-LB arm. Aggregate specimen length, longest specimen length, number of complete portal tracts (CPTs), and diagnostic adequacy were assessed. Post-procedure pain was measured using the visual analog scale (VAS) at 1, 4, and 24 hrs post-procedure.

**Results** A total of 48 patients (30 males; 62.5% with a mean age of 37.25 ± 12.7 years) were randomized into EUS-LB (n = 24) and PC-LB (n = 24). EUS-LB yielded significantly greater aggregate specimen length (33.5 vs 15.0 mm; p < 0.0001) and a higher number of CPTs (17.5 vs. 7.5; p < 0.0001). The longest length of the specimen was noted in PC-LB arm (10.5 vs. 8.0;p = 0.04). Diagnostic adequacy was similar between the two arms. The most common post-procedure side effect was pain. Pain was noted in higher proportion in PC-LB arm (87.5 % vs. 16.7 %; p = 0.001) and had higher analgesic requirement (41.7 % vs. 4.2%;p = 0.004). VAS score was significantly higher in the PC-LB at all the measured time points of 1, 4, and 24 hrs (p < 0.001).

<table>
<thead>
<tr>
<th>Table 1</th>
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<tbody>
<tr>
<td><strong>EUS-LB (n = 24)</strong></td>
</tr>
<tr>
<td>Aggregate Specimen length [median (interquartile range)] (mm)</td>
</tr>
<tr>
<td>Number of CPTs</td>
</tr>
<tr>
<td>Pathological Diagnosis attained</td>
</tr>
<tr>
<td>Need for analgesic</td>
</tr>
</tbody>
</table>
Conclusions EUS-LB showed significantly better aggregate specimen length and more CPTs compared to PC-LB. Post-procedure pain in the first 24 hrs was significantly greater in the PC-LB arm. (Trial No:CTR2020/09/027898)

OP233 NEXT-GENERATION SEQUENCING MUTATIONAL ANALYSIS OF CELL-FREE DNA IN ERCP-OBTAINED BILE. A STEP FORWARD IN THE DIAGNOSIS OF MALIGNANT BILIARY STENOSIS

Authors Rullán M.1, Oyon D.2, Zabalza L.1, Salmón P.1, Jusué V.1, Mercado M.1, González de la Higuera B.1, Amat L.1, Carraucosa J.1, Fernández-Urrien I.1, Ruiz-Clavijo D.1, Casi M.3, Borobio E.1, Saldana C.1, Bolado F.1, Arechederra M.1, Berasain C.4, Avila M.A.4, Urman J.M.3, Vila J.J.3

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Aims The discrimination between benign and malignant biliary stenosis (BS) remains a clinical challenge. The diagnostic accuracy of bile duct brushing cytology is suboptimal. Liquid biopsy strategies could improve this diagnostic accuracy. The aim of this study was to evaluate the diagnostic yield of ERCP-bile duct brushing cytology versus next-generation sequencing mutational analysis of cell-free DNA in ERCP-obtained bile (Bilemut) in patients with BS at the time of first ERCP.

Methods Prospective multicenter study (2017-2020). A cohort of 50 patients prescribed to undergo ERCP with a diagnosis of BS was accrued. Bile was obtained before contrast injection. The final diagnosis was defined based on histological evidence and 12 months clinical or radiographic follow-up. We compared sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) following STARD guidelines recommendations.

Results Twelve patients were finally diagnosed of benign BS and 38 of malignant BS (31 cholangiocarcinoma, 1 gallbladder cancer and 6 pancreatic cancer). Diagnostic accuracy results are shown in the Table below:

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bile duct brushing cytology</td>
<td>50 % (19/38)</td>
<td>100 % (12/12)</td>
<td>100 % (19/19)</td>
<td>38 % (12/31)</td>
</tr>
<tr>
<td>Bilemut</td>
<td>97 % (37/38)</td>
<td>66 % (8/12)</td>
<td>90 % (37/41)</td>
<td>88 % (8/9)</td>
</tr>
</tbody>
</table>

Bilemut detected mutations in the 19 patients with malignant BS and non-malignant bile duct brushing cytology. The combination of both techniques would have diagnosed 100% of malignant BS. The most frequently detected mutations were KRAS 73.7 % and TP53 52.6 %. Potentially actionable mutations were identified in 55.3 %.

Conclusions Implementation of Bilemut can improve the sensitivity of bile duct brushing cytology in BS with additional risks. In this study the combination of Bilemut and bile duct brushing cytology allows to detect all the malignant BS. Bilemut can identify actionable mutations for targeted therapies.

Benign bile duct lesions account for up to 30 % of biliary strictures. We present a case of endoscopic diagnosis of non-IgG4-mediated autoimmune cholangiopathy (AIC) associated with eosinophilic esophagitis. EUS examination failed to provide a definitive diagnosis and ruled-out malignancy. Cholangioscopy showed a narrow and erythematous common bile duct with denuded areas. Finally, histological examination revealed a lymphoplasmacytic infiltrate withouth IgG4 and first follow up showed improvement after four weeks of prednisone. AIC can be difficult to distinguish from malignant strictures, being cholangioscopy with biopsy an effective and safe procedure. Slim linear echoendoscope is an alternative in patients with esophageal stricture.

OP235 EUS-GUIDED PORTAL PRESSURE GRADIENT MEASUREMENT (EUS-PPG). PRELIMINARY RESULTS COMPARED WITH HEPATIC VENOUS PRESSURE GRADIENT (HVPG)

Authors Martínez-Moreno B.1, Guilabert L.1, Martínez J.2, Hurtado A.1, Pascual S.2, Rodríguez M.2, Miralles C.1, Herrera I.1, Bellot P.1, Martínez-Sempere J.2, Compañy L.1, Ruiz F.1, Mangas C.1, Aparicio J.R.1

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DOI 10.1055/s-0042-1744798

Aims Evaluate technical success and related complications associated to EUS-PPG in cirrhotic patients. Secondary endpoint: explore the correlation between EUS-PPG and HVPG in cirrhotic patients.

Methods Prospective observational study in a tertiary hospital. Patients with diagnosed or suspected cirrhosis and indication of measurement of portal pressure gradient were enrolled. We performed EUS-PPG with a conventional endoscopic ultrasonography 22G needle and a central venous pressure monitor in the endoscopic unit. In a subgroup HVPG was also performed with the standard radiologic method. We used mean values for descriptive variables and Intraclass correlation coefficient for EUS-PPG/HVPG correlation.

Results Twenty six patients were included. Hepatic function was Child 7,4 ± 2,1 y MELD-Na 13,2 ± 5,6. Success rate of EUS-PPG was in 24/26 patients (92,3 %). It wasn’t possible to perform EUS-PPG in two cases, one because of impossibility of sedation, and one because of lack of vascular access for IVC and suprahepatic veins in a liver transplant patient. There was one complication (3,8 %): mild upper gastrointestinal bleeding endoscopically treated. In 25/26 propofol was exclusively used for the sedation. In 81 % another endoscopy was associated. Mean time for the procedure was 25,6 ± 12,7min. In 17 patients EUS-PPG and HVPG were performed. Mean EUS-PPG was 17,2 ± 5,2 mmHg and 18,1 ± 3,9 mmHg in the HVPG group, p = 0,3. Intraclass correlation coefficient between EUS-PPG and GPVH was 0,75.

Conclusions EUS-PPG measurement in cirrhotic patients is an effective and safe procedure that allows direct measurement of the portal pressure. Good correlation with HVPG is observed. EUS-PPG could become the new gold standard.

OP236 EVALUATION OF INTEROBSERVER AGREEMENT OF DIGITAL SINGLE-OPERATOR CHOLANGIOSCOPY FOR INDETERMINATE BILIARY STRICTURES

Authors Milluzzo S.M.1, 2, Tringali A.1, Perri V.1, Familiari P.1, Boskoski L.1, Ricci R.1, Costamagna G.2

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Aims Visual findings during digital single-operator cholangioscopy (DSOC) still plays a major role in diagnosis of indeterminate biliary strictures (IBDS). A universally accepted classification is lacking. The Monaco Classification was recently proposed to overcome this limitation. The aim of this study was to evaluate efficacy and reproducibility of this classification.

Methods Twenty-second DSOC clips were retrospectively reviewed by 6 experts and 6 trainees with no expertise in biliary endoscopy and classified according to the Monaco Classification. Investigators were all blinded to the final diagnosis. Final diagnosis was based on histological evaluation of the surgical specimen when available or a clinical diagnosis after a follow-up of at least 6 months.

Results Twenty-nine clips were reviewed. Overall accuracy of DSOC visual finding was 73.6% and 64.4% for experts and trainees, respectively. Results of interobserver agreement are shown in Table 1.

<table>
<thead>
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<th>Aims</th>
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<tr>
<td>DSOC visual finding</td>
<td>Experts and trainees with no expertise in biliary endoscopy and classified according to the Monaco Classification.</td>
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</table>
**OP240  ENDOSCOPIC RESECTION FOR TYPE III G-NETS: A SYSTEMATIC REVIEW**

**Authors** Tringali A.1, Costa D.2, Adler D.G.3

**Institutes** 1 National Tumour Institute of Milan, Endoscopy Unit, Milan, Italy; 2 ULSS2 Marco Trequilana, Endoscopy Unit, Conegliano, Italy; 3 Porter Adventist Hospital, Centura Health, Center for Advanced Therapeutic Endoscopy (CATE), Denver, CO, United States

**DOI** 10.1055/s-0042-1744803

**Aims** The traditional management of type III Gastric Neuroendocrine Tumors (G-NETS) has been radical surgical resection due to higher risk of metastasis and poor prognosis compared with type I and II. Recent studies highlighted the role of endoscopic resection in a selected group of type III G-NETS. We performed a systematic review to assess the role of endoscopic treatment in this setting.

**Methods** A multiple database search including MEDLINE, Embase and Cochrane Library from January 2003 to March 2021 was performed, to identify studies reporting efficacy and safety of endoscopic management of Type III G-NETS. Primary outcomes were complete resection rate and overall mortality. Secondary outcomes included complication rate.

**Results** Ten retrospective studies were identified including 229 patients, mostly male (63%), in the sixth decade of life. The majority of tumour were solitary lesions localized in the body of the stomach. Sixty-six patients had grade 1, 52 grade 2 and 29 grade 3 type III G-NETS. One hundred and twenty-one patients underwent endoscopic resection (EMR or ESD) for small (< 20 mm) localized tumours without lymph node or distant metastasis at baseline. Complete resection rate was 72%-80%, reaching 87% in the largest series. Not enough data to determine whether ESD was superior to EMR in terms of complete resection rate was 72%-80%, reaching 87% in the largest series. Not enough data to determine whether ESD was superior to EMR in terms of complete resection.

**Conclusions** Endoscopic management of small, low grade type III G-NETS with no evidence of metastasis could be used with curative intent. More studies are warranted.

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**OP241V  THE CASE OF A SCRUTINIZED UNUSUAL DUODENAL TUMOR: ESD RESECTION IN A DIAGNOSTIC AND CURATIVE AIM**

**Authors** Poiraud M.1, Moulart F.2, Verset L.1, Einsendrath P.2, Lemmers A.1

**Institutes** 1 Erasme Hospital, Gastroenterology Hepatopancreatology and Digestive Oncology, Brussels, Belgium; 2 Saint-Pierre University Hospital, Université Libre de Bruxelles, Hepato Gastro Entérologie, Brussels, Belgium; 3 Institut Jules Bordet, Pathological Anatomy, Brussels, Belgium

**DOI** 10.1055/s-0042-1744804

**Prediction of subepithelial lesions (SEL) based on classical endoscopic appearance is often difficult. We report a case of duodenal SEL where the pathological examination of the endoscopic resection revealed the real diagnosis. The preoperative diagnostic hypothesis were based on the endoscopic appearance, the echo-endoscopic pattern so as bite-on-bite biopsies. In our case, ESD allowed an extended histopathological examination which disproved the preoperative diagnosis. Although risky and technically challenging in the duodenum, ESD appears in referral centers as a minimal invasive and good indication for further histopathological confirmation as well as a curative strategy in case of selected localized duodenal tumors.**

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**OP242  SECOND-LOOK UPPER ENDOSCOPY AS THE INITIAL APPROACH TO SUBEPITHELIAL LESIONS: A REASSURING AND RELIABLE STRATEGY**

**Authors** Lima Capela T.1,2, Macedo Silva V.1,2, Freitas M.1,2, Cúrda Gonçalves T.1,2, Dias de Castro F.1,2, Magalhães J.1,2, Leite S.1,2, Cotter J.1,2

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**DOI** 10.1055/s-0042-1744805

**Aims** Subepithelial lesions (SEL) of upper gastrointestinal tract are frequent on upper gastrointestinal endoscopy (UGE) but robust data regarding their management is lacking. Although endoscopic ultrasound (EUS) is important in the diagnosis and management of SEL, many can be classified only by a thorough UGE, reducing the burden of additional studies. We aimed to analyze the impact of a stepwise approach starting with an UGE prior to the decision of EUS in patients with suspected SEL.

**Methods** Retrospective cohort-study of patients referred to our center between 2015-2020 with suspected SEL. Patients’ demographic and clinical data, SEL features on index and second-look UGE, and decisions on SEL management and follow-up were collected.

**Results** A total of 193 SEL were included. Most patients performed a second-look UGE (n = 180; 94.7%). A minority was orientated directly to EUS (n = 8; 4.2%) or endoscopic/surgical resection (n = 2; 1.1%). In patients who underwent a second-look UGE, SEL were excluded in 23 (13.9%) and in those with confirmed SEL, both index and second-look UGE had a very strong and strong correlation in number (r = 1.0; p < 0.001) and size (r = 0.721; p = 0.001) and a very good agreement (κ = 1.0; p < 0.001) for location of SEL. From these patients, 21 (11.7%) did not need further work-up and the rest performed EUS (n = 88; 48.9%), surveillance by UGE (n = 44; 24.4%) or endoscopic resection (n = 2; 1.1%). All patients that did not need further work-up had a benign diagnosis.

**Conclusions** Systematically performing a second-look UGE in patients referred with suspected SEL can safely preclude the need of subsequent investigation in approximately one fourth of them. As UGE is less invasive and more readily available, a second-look UGE should be the initial approach to SEL evaluation.

**Clinical presentations of colonoscopy**

11:30–12:30

Saturday, 30 April 2022

**Club E**

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**OP243  CAN ROUTINE BIOPSY OF COLORECTAL ENDOSCOPIC MUCOSAL RESECTION SCARS BE ABANDONED? – PRELIMINARY DATA OF A MULTICENTRE RANDOMIZED SINGLE-BLINDED CROSSOVER TRIAL**

**Authors** João M.1, Pinto Pais T.2, Areia M.1, Alves S.1, Brito D.1, Elvas L.1, Saraiva S.1, Dinis Ribeiro M.2, Cadime A.T.1

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**DOI** 10.1055/s-0042-1744806

**Aims** Current ESGE guideline suggests that routine biopsy of endoscopic mucosal resection (EMR) scars can be abandoned provided that a standardized imaging protocol with virtual chromoendoscopy is used. However, few studies have examined the accuracy of advanced endoscopic imaging for the prediction of histological recurrence. We aimed to assess the incremental benefit of narrow band imaging (NBI) versus white light endoscopy (WLE) by randomizing the initial technique for the endoscopic detection of post-EMR recurrence and to assess if NBI achieves a diagnostic accuracy that replaces the need for biopsy.

**Methods** Multicenter, randomized, crossover trial, with consecutive patients undergoing the first colonoscopy after EMR of lesions ≥20mm. Computer-generated randomization and opaque envelope concealed allocation. Patients randomly assigned to scar examination with NBI followed by WLE (NBI+WLE)
or WLE followed by NBI (WLE > NBI) with biopsies in recurrence- and normal-appearing tissue were performed.

**Results** We included 112 scars, 61 in group NBI > WLE and 57 in group WLE > NBI. Recurrence was confirmed histologically in 32 %. Comparing NBI vs. WLE assessment sensitivity 89 % vs. 82 %, specificity 98 % vs. 99 %, positive predictive value 94 % vs. 97 % and negative predictive values 95 % vs. 92 % did not reach a statistically significant. Diagnostic accuracy of NBI vs. WLE for diagnosis of recurrence was improved (95 % vs. 93 %; P < 0.01).

**Conclusions** Endoscopic assessment of EMR scars with WLE has an already high accuracy for diagnosis of recurrence but the use of NBI can further improve recurrence detection, precluding the routine biopsy in cases of negative optical diagnosis.

**OP246  COMBINED FORWARD AND RETROFLEXION WITHDRAWAL DURING COLONOSCOPY USING A SECOND-GENERATION SHORT-TURN RADIUS COLONOSCOPE**

**Authors** Robles-Medranda C.1, Cifuentes-Gordillo C.1, Puga-Tejada M.1, Alcivar-Vasquez J.1, Del Valle R.1, Alvarado H.1, Egas-Izquierdo M.1, Arevalo-Mora M.1, Merfea R.C.1, Barreto Perez J.1, Rodriguez J.J.1, Lukashok H.P.1

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**DOI** 10.1055/s-0042-1744809

**Aims** Polyps and adenomas are missed indiscutably in colonoscopy due to factors such as the location of lesions on difficult areas (i.e., proximal side of ileocecal valve). We aimed to evaluate the impact of combined forward and retroflexion withdrawal using a second-generation short-turn radius colonoscopy during colonoscopy.

**Methods** A non-randomized, prospective trial. Patients were submitted first to a standard high-definition colonoscopy, followed by a second procedure combining forward and retroflexion performed by a different operator. Lesions detected on the second procedures were considered as originally missed during standard colonoscopy. We calculated the polyp detection rate (PDR) and the adenoma detection rate (ADR) of both standard and combined colonoscopy techniques. Statistical analysis was performed on R 4.0.3. NCT03901651.

**Results** A total of 319 complete colonoscopies in 319 cases were performed combining forward and retroflexion withdrawal. Colonoscopy reason: diagnostic on 266 (83.4 %), screening on 41 (12.9 %) and 12 (3.8 %) for polypectomy/CCR surveillance. Regarding size of the lesions, 140/163 (85.9 %) detected on forward viewing were < 5 mm. Whereas, during second procedure (forward and retroflexion), 65/71 (91.5 %) sized < 5 mm and 6/71 (8.5 %) between 5-10 mm. For forward viewing, the PDR and ADR was 45.1 and 16.3, respectively. For second procedure (combined forward and retroflex), the PDR and ADR increased to 21.9 and 7.8, correspondingly (Table 1).

**Conclusions** We found that combined forward and retroflex withdrawal technique during colonoscopy increases the PDR and ADR in comparison to standard colonoscopy. Larger, multi-center trials are necessary to validate these data.

**OP247V  ISCHEMIC COLITIS AFTER COVID MRNA VACCINE**

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**Institute** 1 Ameos University Teaching Hospital, Gastroenterology, Halberstadt, Germany

**DOI** 10.1055/s-0042-1744810

An 82-year female patient was admitted with abdominal pain and hematocrit 7 days after her second mRNA vaccination (BioNTech, Germany). There was severe abdominal tenderness and leukocytosis (18,000). Abdominal ultrasound revealed massive edema of the colon but no atherosclerosis of the aorta. Sigmoidoscopy revealed deep ulcers luminal narrowing and frank mucosal necrosis.
sis starting at the rectosigmoid and extending into the entire sigmoid colon. Extensive evaluation including stool cultures, histology, studies for viral and autoimmune diseases did not reveal any other cause for the ischemic colitis. Thrombosis after mRNA may occur in the setting of vaccine-induced thrombocytopaenia, vasculitis autoimmune or thrombosis.

OP248V ENDOSCOPIC ULTRASOUND (EUS) GUIDED COLORECTAL ANASTOMOSIS FOR SUCCESSFUL RELIEF OF MALIGNANT ADHESIVE LEFT SIDED COLONIC OBSTRUCTION IN A CASE OF FAILED COLONIC STENTING

Authors Gandhi A.1, Ansari J.1, Raina H.1, Bhagwat S.1, Bapaye H.1, Pujari R.1, Nikumbh T.1, Bapaye A.1
Institutes 1 Deenanath Mangeshkar Hospital and Research Centre, Shивand De,en Centre for Digestive Disorders, Pune, India; 2 Byramjee Jeejeebhoy Govt. Medical College, Pune, India


How to access the pancreas Saturday, 30 April 2022

OP249 ENDOSCOPIC PAPILLECTOMY COMPARED TO SURGERY FOR AMPULLARY LESIONS: A PROPENSITY-SCORE MATCHING ANALYSIS

Authors Hollenbach M.1, Heise C.2, Ali E.A.3, Ariemma F.4, Gulla A.3, Regner S.5, Gajoux S.2, study group P ESA
Institutes 1 University of Leipzig Medical Center, Division of Gastroenterology, Medical Department II, Leipzig, Germany; 2 Martin-Luther University Halle-Wittenberg, Medical Department I, Halle, Germany; 3 Paris Descartes University, Department of Gastroenterology, Digestive Oncology and Endoscopy, Cochin Hospital, Paris, France; 4 3 Humanitas Clinical and Research Hospital, Rozzano, Digestive Endoscopy Unit, Division of Gastroenterology, Milano, Italy; 5 Lithuanian University of Health Sciences, Department of Surgery, Kaunas, Lithuania; 6 Lund University, Department of Clinical Sciences Malmö, Section for Surgery, Lund, Sweden; 7 Médecine Sorbonne Université, Department of pancreatic and endocrine surgery, Pitié-Salpêtriere Hospital, Paris, France

Aims Ampullary lesions (AL) can be resected by endoscopic-papillectomy (EP), surgical-ampullectomy (SA) and pancreaticoduodenectomy (PDD). However, consistent data analyzing the differences among the methods are lacking. We compared outcome and complications of EP and surgery in matched patients of a large retrospective multicenter study.

Methods The ESPA study database included 2862 patients. We performed a propensity-score-matching (nearest-neighbor-method) based on age, gender, anthropometrics, co-morbidities, size and histologic subtype of AL. Ampullary carcinoma of T1/T2-stadium or metastatic diseases were excluded. Main outcomes were complete resection (R0) and complications. Dispensions between EP and PDD or EP and SA were calculated by means of Fisher’s exact or chi-square-test, Mann-Whitney-U-test and log-rank test for survival.

Results Propensity-score-matching identified 151 pairs of patients for EP/PDD and 77 for EP/SA analysis. Baseline characteristics were comparable. Initial R0-rate in the EP/PDD cohort was 84.4 % (EP) compared to 100 % (PDD, p < 0.001). However, anew EP or ablative therapy (APC, RFA) increased R0-rate to 91.3 % (p = 0.5 compared to PDD). Severe complications were significantly higher in the PDD group (17.2 % vs 3.3 %, 2 vs 0 deaths, p < 0.001). In the EP/SA group, R0-rate was 87.1 % (EP) compared to 90.9 % (SA, p = 0.4). Complications were not significantly different but SA resulted in 2 deaths (0 in EP). Survival analysis showed a significantly improved long-term survival in EP compared to PDD patients.

Conclusions EP showed a comparable efficacy as surgery for AL and lower risk of complications. Incomplete resections can be treated by repetitive endoscopic therapy. EP should be the standard of care for AL except of advanced invasive cancers.

OP250 BILIARY CANNULATION: WHICH IS THE BEST TECHNIQUE WHEN THE GUIDEWIRE IS UNEXPECTEDLY INSERTED INTO PANCREATIC DUCT?

Authors Zaragoza Velasco N.1, Albuquerque M.2, Torres N.1, Miguel I.1, Figa M.2, Piijoan E.2, 4, Mihana J.M.1, Vargas A.2, 2, Reñe J.M.1, González-Huix F.1, 2
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Aims Incidental guidewire insertion into pancreatic duct (PD) is traditionally associated with a higher risk of post-ERCP pancreatitis (PEP). To compare the efficacy and safety of different biliary cannulation techniques after an unexpected insertion of the guidewire into pancreatic duct.

Methods Analysis of a multicenter prospective endoscopy database (2012-2021). Patients with naïve papilla undergone first ERCP performed by expert endoscopists, were included. There were analyzed four biliary cannulation techniques after the guidewire was unexpectedly inserted into PD: repeated attempts after guidewire was withdrawn from PD (RA), keeping guidewire in PD to aid biliary cannulation (double guidewire technique–DGT), transpancreatic pre-cut (TPC) and TPC, pancreatic stenting and biliary cannulation over stent (TPC-BCoS). In the last one, TPC was performed after the first unexpected guidewire insertion into PD.

Results 527 patients included (age: 70.10 ± 0.71 years, 52.7 % women). Biliary cannulation techniques: 189 (35.8 %) RA, 65 (12.3 %) DGT, 219 (41.5 %) TPC and 54 (10.2 %) TPC-BCoS. Global biliary cannulation rate (BCR): 91.5 % and complication rate (p = 0.01 and the lowest complication rate: 5.6 %, p = 0.02. In this group, no PEP appeared.

Conversely, TPC showed the highest perforation rate: 6.8 %, p = 0.03. There were no differences in hemorrhage, cholangitis and death. Unlike TPC-BCoS, in a third of RA, DGT and TPC a further freehand pre-cut was required.

Conclusions Transpancreatic pre-cut, pancreatic stenting and biliary cannulation over stent was the most effective and safest biliary cannulation technique. Therefore, it should be the first choice after unexpected insertion of the guidewire into pancreatic duct.

OP251V ENDOSCOPIC MANAGEMENT OF COMPLETE MAIN PANCREATIC DUCT TRANSSECTION IN A YOUNG CHILD

Authors Medas R.1, Moutinho-Ribeiro P.1, Macedo G.1
Institute 1 Centro Hospitalar Universitário São João, Gastroenterology, Porto, Portugal
A 11-year-old female suffered blunt abdominal trauma with a school chair and presented in emergency room with epigastric pain and vomits. On admission, abdominal tenderness was noted and laboratory workup showed mild elevation of pancreatic enzymes. Abdominal ultrasonography revealed irregularity in the pancreatic neck with adjacent fluid, suspicious of parenchymal laceration. Computed tomography confirmed complete transection of main pancreatic duct (MPD) (grade IV injury). Early endoscopic retrograde cholangiopancreatography was performed with successful bridging of the disruption and insertion of a plastic stent. After 14 weeks with good clinical evolution, stent was removed and integrity of MPD confirmed by endoscopic ultrasonography.

**OP252**  LONG-TERM OUTCOMES AFTER EUS-GUIDED PANCREATIC DUCT DRAINAGE

Authors  Van Haren M.1, Aouattah T.1, Moreels T.1, Yeung R.1, Deprez P.H.1
Institute  T Cliniques universitaires Saint-Luc, Université Catholique de Louvain, Gastroenterology, Woluwé-Saint-Lambert, Belgium

**Aims**  To analyze the long-term clinical success of EUS-PD

**Methods**  For this retrospective single tertiary-referral center study, data from patients with EUS-PD were collected in patient’s charts and the endoscopy database, retrieving information on indication, technique of drainage, technical and clinical successes (total in case of no pain after treatment, and partial if more than 50% reduction in pain), adverse events, as well as reasons for failure defined as no improvement of (pain) symptoms, or need for surgery.

**Results**  A total of 66 patients were retrieved (62% male, median age 53y; range, 9-79). EUS-PD was performed by transgastric (n=40), transduodenal (n=4) approach, or rendez-vous technique (n=21). Technical success was obtained in 82% (54/66), with an adverse event rate of 30% (20/66), of which one severe and 9 moderate (mostly pancreaticitis and fluid effusions).

Long-term clinical success was observed for 46 patients (n=46/54, 85.2%), during a median follow-up of 70 m (range 1-250). One or two stent exchanges were usually needed (median 1; range, 0-15). Three patients only underwent surgery. Higher clinical and technical success rates were associated with a large MPD diameter (p=0.008), and male gender (p=0.001). There was no significant relationship between the primary disease, drainage type, tobacco or alcohol use, and technical and clinical success rate.

**Conclusions**  EUS-guided pancreatic drainage is effective in the long term with a clinical success rate over 85%, and may therefore be considered as a good alternative to surgery. However, this technique is still challenging with 18% technical failures, even in an expert center.

**OP253V**  ENDOSCOPIC RESSOLUTION OF COMPLEX ADVERSE EVENTS AFTER PANCREATIC SURGERY

Authors  Vila J.1, Jusué V.1, Rodríguez Mendiluce I.1, Hervas N.1, Arrubla A.1, Carrascosa J.1, Fernández-Urrién I.1, Uribarri L.1
Institute  1 Hospital Universitario de Navarra, Endoscopy Unit, Gastroenterology Dpt., Pamplona, Spain

**Aims**  To evaluate the clinical outcomes after the endoscopic treatment of complications after pancreatic surgery.

**Results**  A 62 yo woman developed collection, jaundice and duodenal stenosis after pancreatic resection. After endoscopic collection drainage, ERCP shows disruption of the pancreatic duct to the collection and biliary stenosis. Two months later acute cholangitis with biliary dysfunction was diagnosed. A duodenal fistula is communicated with the collection and pancreatic duct. Biliopancreatologic clinical improvement but worsening of the duodenal stenosis with oral intolerance, which prevents the passage of the duodenoscope to the second duodenal portion for stent exchange. EUS-guided endoscopic gastroduodenostomy is performed and the papillary area is accessed retrogradely. These complex postsurgical complications could be resolved by combining several endoscopic techniques.

**OP254**  COMPARATIVE DIAGNOSTIC PERFORMANCE OF END-CUTTING FINE-NEEDLE BIOPSY NEEDLES FOR ENDOSCOPIC ULTRASOUND TISSUE SAMPLING OF SOLID PANCREATIC MASSES: A NETWORK META-ANALYSIS

Authors  Gkolakis P.1, Crinò S.F.2, Tzialtzios G.3, Ramai D.4, Papaefthimiou A.5, Papanikolaou I.5, Triantafyllou K.3, Arvanitakis M.1, Lisotti A.6, Fusaroli P.6, Mangiavillano B.7, Carrara S.5, Repici A.8, Hassan C.9, Faccirosso A.9
Institutes  1 Erasme University Hospital, Department of Gastroenterology, Hepatopancreatology and Digestive Oncology, Brussels, Belgium; 2 The Pancreas Institute, University Hospital of Verona, Department of Medicine, Gastroenterology and Digestive Endoscopy Unit, Verona, Italy; 3 Medical School, National and Kapodistrian University of Athens, “Attikon” University General Hospital, Hepatogastroenterology Unit, Second Department of Internal Medicine-Propaeutic, Athens, Greece; 4 University of Utah Health, Salt Lake City, United States; 5 University Hospital of Larissa, Department of Gastroenterology, Larissa, Greece; 6 Hospital of Imola, Gastroenterology Unit, Imola, Italy; 7 Humanitas – Mater Domini, Gastrointestinal Endoscopy Unit, Castellaneta, Italy; 8 IRCCS Humanitas Research Hospital, Department of Gastroenterology, Milan, Italy; 9 University of Foggia, Gastroenterology Unit, Department of Surgical and Medical Sciences, Foggia, Italy

**Aims**  To perform a systematic review with network meta-analysis to compare the diagnostic accuracy of available FNB needles for sampling of solid pancreatic lesions.

**Methods**  A systematic literature review (MEDLINE and Cochrane Database) was conducted for studies evaluating the accuracy of newer FNB needles in adults undergoing EUS-guided sampling of solid pancreatic masses. Primary outcome was diagnostic accuracy. Secondary outcomes were sample adequacy, diagnostic sensitivity, specificity, and adverse event rate.

**Results**  Overall, 16 RCTs (1934 patients) were identified. On network meta-analysis, Fransen needle significantly outperformed reverse bevel needle [risk ratio (RR) 1.21 (1.05-1.40) for accuracy and 1.31 (1.05-1.22) for adequacy] and fine-needle aspiration (FNA: RR 1.21 (1.01-1.25) for accuracy and 1.07 (1.02-1.13) for adequacy). Likewise, Fork-tip needle was significantly superior to reverse bevel needle [RR 1.17 (1.03-1.33) for accuracy and 1.09 (1.02-1.16) for adequacy] and to FNA (RR 1.09 (1.01-1.19) for accuracy and 1.03 (1.01-1.07) for adequacy). Other comparisons did not achieve statistical significance. As a consequence, Fransen (SUCRA score 0.89 for accuracy and 0.94 for adequacy) and Fork-tip needle (SUCRA score 0.76 for accuracy and 0.73 for adequacy) ranked as the two highest-performing FNB needles. When considering different needle sizes, 25G Fransen and 25G Fork-tip needle were not superior to 22G reverse bevel needle [RR 1.18 (0.96-1.46) and RR 1.04 (0.62-1.52)]. None of the tested needles resulted significantly superior to the other FNB devices nor to FNA when rapid on-site cytological evaluation was available.

**Conclusions**  Fransen and Fork-tip needle, particularly with 22G size, showed the highest performance for tissue sampling of pancreatic masses, with low confidence in estimates.
OP255  GOOD FOR THE ENVIRONMENT AND THE POCKET– AN AUDIT OF WASTE GENERATION AND RECYCLING PRACTICES WITHIN AN IRISH ENDOSCOPY UNIT

Authors  O’Morain N.1,2,3, Joy E.1, Donohoe E.2, Doherty J.1,2,3, Stack R.1,2,3, Mulcahy H.1,2,3, McDermott E.1,2
Institutes  1 St. Vincent’s University Hospital, Centre for Colorectal Disease, Dublin, Ireland; 2 St. Vincent’s University Hospital, Endoscopy Department, Dublin, Ireland; 3 University College Dublin, School of Medicine, Dublin, Ireland

Aims  Ireland has one of the highest greenhouse gas emissions per capita in the EU, at 13.3 metric tons of CO2 equivalent/person. Healthcare accounts for 30 % of all public sector greenhouse gas emissions. General waste accounts for almost 60 % of waste generated in Irish hospitals. It has been estimated that 1/3 of this could be recycled. A large volume of recyclable waste is generated in Endoscopy, however sustainable practices are not currently promoted. This quality improvement project sought to determine the volume of recyclable waste generated within Endoscopy and whether use of green bin would be a cost-effective strategy.

Methods  Waste generated by patient-related activity over one week was audited. Non-clinical and clinical waste was weighed and sorted, with the percentage of recyclable waste documented and net cost savings calculated. Reduction in carbon dioxide emissions (CO2e) was calculated.

▶ Table 1

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<th>Waste Type</th>
<th>Disposal Cost/Tonne</th>
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<tr>
<td>Clinical Waste</td>
<td>€2125</td>
</tr>
<tr>
<td>Non-Clinical Waste</td>
<td>€165</td>
</tr>
<tr>
<td>Green Waste</td>
<td>€85</td>
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Results  In total, 70 non-clinical and 36 clinical waste bags were collected. Median weight for non-clinical waste was 20.1kg (IQR 19.7–21.7kg) and 40kg (IQR 28.8-39.0kg) for clinical waste. Median of 14.1kg (70.5 %) of non-clinical and 3kg (7.5 %) of clinical waste was recyclable. Disposal cost/tonne summarised in Table 1. Net savings of €86.5/week was generated, and a reduction in carbon footprint by 21.7kg CO2e. This equates to a cost saving of €4,498 per year (Figure 1), and a reduction in CO2e of 1,128.4kg.

Conclusions  This audit highlights the impact sustainable practices can have on waste management in Endoscopy. A considerable volume of waste generated can be recycled with significant cost savings and reductions in CO2e.

OP256  RATIONALISING THE USE OF SPECIMEN POTS FOLLOWING COLORECTAL POLYPECTOMY– A SMALL STEP TOWARDS GREENER ENDOSCOPY

Authors  Yong K.K.1, He Y.2, Cheung H.C.2, Sriskandarajah R.3, Jenkins W.2, Beg S.1
Institutes  1 Imperial College Healthcare NHS Trust, Gastroenterology, London, United Kingdom; 2 Imperial College School of Medicine, London, United Kingdom

Aims  Endoscopy departments are responsible for the third highest rate of hospital related greenhouse gas (GHG) emissions. In this study, we aim to determine whether combining multiple diminutive colorectal polyps within a single specimen pot can reduce waste without causing deleterious clinical impact.

Methods  This was a retrospective observational study of colorectal polyps resected during 2019, within the Imperial College Healthcare Trust. The numbers of pots for polypectomy specimens were calculated and corresponding histology results were extracted. We modelled the potential specimen pot savings if all polyps were sent together and the number of advanced lesions we would not be able to locate if we adopted this strategy. GHG emissions were estimated based on previous study using a Life Cycle Assessment, at 0.28kg CO2 per pot.

Results  A total of 11,781 lower GI endoscopies were performed. There were 5134 polyps removed and 4192 pots used. This equates to 1,174 kg CO2 released. There were 4568(90%) polyps measuring 0-10mm. 7(0.2 %) of these diminutive polyps were cancers and 18(0.4 %) with high-grade dysplasia. 2(8 %)
of these lesions were predicted to have advanced histology at the time of endoscopy. If we combined all of the polyps into a single group, the total polyps used would be reduced to 2779.

**Conclusions** A change in practice by placing diminutive polyps collectively in one pot would have resulted in GHG emission savings equivalent to 438 pounds of coal combustion. The reduction in GHG emissions from judicious use of specimen pots would be amplified with a change in practice on a national level.

**OP257  GREEN ENDOLOGY TO REDUCE CO2E GENERATED BY ENDOLOGICAL WASTE – GECO2E**

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**DOI** 10.1055/s-0042-1744820

**Aims** Endoscopy is healthcare’s third largest waste generating procedure. An overview on green endoscopy was recently published. We aimed to measure our unit’s carbon footprint and perform a pioneer evaluation applying the principles of green endoscopy towards a more sustainable unit.

**Methods** A 3-stage prospective study was conducted. Stage 1: 4-week observational audit, during which daily endoscopic waste (landfill, biohazard, contaminated, recycled paper and plastic) was weighed. Stage 2: 1-week intervention-calibrated scale was used. Equivalence of 1kg of landfill waste to 1CO2e and 1kg of biohazard waste to 3CO2e were applied. Statistics: paired samples T-test.

**Results** Total waste and biohazard waste were diminished by 12.2% (p = 0.166) and 41.4% (p = 0.010), respectively, whereas landfill waste (p = 0.059) and recycling waste increased (paper: p = 0.001; plastic: p = 0.007). In terms of CO2e, a total decrease of 31.6% (138.8CO2e) was verified (mean – pre vs. post-intervention: 109.7 vs. 74.9, p = 0.018). Mean endoscopy load was similar (pre vs. post-intervention: 46.2 vs. 44.5, p = 0.275), and all personnel agreed “the project did not disturb daily work”.

**Conclusions** We present the results from the first study applying green endoscopy principles to a real-world scenario. Biohazard waste reduction and daily-recycling were feasible and did not compromise endoscopy productivity. A yearly reduction of 1665.6CO2e may be achieved in our endoscopy unit.

**OP258  SOCIOECONOMIC STATUS AND THE ODDS OF INCOMPLETE COLONOSCOPY IN COLORECTAL CANCER SCREENING**

**Authors** Skau Jørgensen B.1, Deding U.1,2, Kaalby Møller L.1,2, Bastrup G.1,2, Kobaek-Larsen M.1,2, Al-Najmi I.1

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**DOI** 10.1055/s-0042-1744821

**Aims** Eight percent of colonoscopies performed in the Danish Colorectal Cancer Screening Program are incomplete. Our aim was to investigate the association between socioeconomic status (SES) and incomplete colonoscopy (IC) in the Screening Program.

**Methods** We conducted a register-based study utilizing data from the Danish Colorectal Cancer Screening Database and various Danish national registers. 71,973 participants with positive Fecal Immunochemical Tests were included. Main exposure was SES status defined by income and education level. Income was divided into quartiles, and education was categorized as basic school, high school/vocational education and higher education. Outcome was defined by complete or incomplete colonoscopy, stratified by reason for IC. Analyses were done using multivariate logistic regressions adjusting for age, gender, civil status, comorbidity and use of peristalsis-affecting medicine.

**Results**

<table>
<thead>
<tr>
<th>Income</th>
<th>OR Inadequate bowel preparation</th>
<th>P-value</th>
<th>OR Other causes</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st quartile</td>
<td>1.67 95% CI [1.46;1.91]</td>
<td>&lt;0.001</td>
<td>1.19 95% CI [1.05;1.35]</td>
<td>0.008</td>
</tr>
<tr>
<td>2nd quartile</td>
<td>1.38 95% CI [1.21;1.56]</td>
<td>&lt;0.001</td>
<td>1.19 95% CI [1.06;1.34]</td>
<td>0.004</td>
</tr>
<tr>
<td>3rd quartile</td>
<td>1.17 95% CI [1.03;1.33]</td>
<td>0.014</td>
<td>1.05 95% CI [0.93;1.19]</td>
<td>0.422</td>
</tr>
<tr>
<td>4th quartile</td>
<td>Ref.</td>
<td>Ref.</td>
<td>Ref.</td>
<td></td>
</tr>
</tbody>
</table>

The odds ratio (OR) of having an IC due to inadequate bowel preparation was 1.67 (95% CI: 1.46;1.91) in the 1st income quartile, 1.38 (95% CI: 1.21;1.56) in the 2nd quartile and 1.17 (95% CI: 1.03;1.33) in the 3rd quartile compared to the 4th quartile. An OR of 0.87 (95% CI: 0.79;0.97) was estimated for high school/vocational education compared to higher education, whereas basic school was not significantly different. OR of 1.19 (95% CI: 1.05;1.35) for 1st income quartile and 1.19 (95% CI: 1.06;1.34) for 2nd quartile was estimated for IC due to other causes, whereas no differences in OR for educational level was found.

**Conclusions** SES was associated with increased odds of IC, especially measured by income and to a lesser degree for educational level.

**OP259  SYSTEMATIC REVIEW AND META-ANALYSIS: THE GLOBAL THREE-YEAR POST-COLONOSCOPY COLORECTAL CANCER RATE AS PER THE WORLD ENDOSCOPY ORGANIZATION METHODOLOGY**

**Authors** Kader R.1,2,3, Hadjinicolaou A.V.4,5, Burr N.E.6,7, Bassett P.8, Pedersen L.9, Valori R.10, Chand M.2, Stoyanov D.1,2, Lovat L.B.1,2,3

**Institutes** 1 University College London (UCL), Wellcome/EPSRC Centre for Interventional and Surgical Sciences (WEISS), London, United Kingdom; 2 UCL, Division of Surgery and Interventional Sciences, London, United Kingdom; 3 University College London Hospital, London, United Kingdom; 4 Cambridge University Hospitals, Department of Gastroenterology, Cambridge, United Kingdom; 5 University of Cambridge, MRC Cancer Unit, Cambridge, United Kingdom; 6 Mid Yorkshire Hospitals NHS Trust, Department of Gastroenterology, Wakefield, United Kingdom; 7 The University of Leeds, Cancer epidemiology group, Leeds, United Kingdom; 8 Stats Consultancy, Amersham, United Kingdom; 9 Aalborg University Hospital, Department of Surgical Gastroenterology, Aalborg, Denmark; 10 Gloucestershire Hospitals NHS Foundation Trust, Department of Gastroenterology, Gloucester, United Kingdom

**DOI** 10.1055/s-0042-1744822

**Aims** Colorectal cancer (CRC) that occur after a negative colonoscopy is called post-colonoscopy colorectal cancer (PCCRC). Until recently, it has been difficult
Patients with inflammatory bowel diseases (IBD) had a pooled PCCRC-3yr rate of 29.3% (95% CI = 21.3–38.1%) and OR of 6.17 (95% CI = 1.06–3.13) with high heterogeneity. The pooled PCCRC-3yr rate in the right colon was 8.6% (95% CI = 8.3–8.8%) compared to left-sided disease.

Conclusions The global pooled PCCRC prevalence was 7.5%, with rates reducing overtime. IBD patients have over six times higher odds than those without developing PCCRC.

OP260 RISK FACTORS FOR UNDERESTIMATION OF PATIENT PAIN IN OUTPATIENT COLONOSCOPY

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Aims Adequate management of patient pain and discomfort during colonoscopy is crucial to obtain a high-quality examination. We aimed to investigate the ability of endoscopists and endoscopy assistants in accurately assessing patient pain in colonoscopy.

Methods This was a single-center, cross-sectional study including patients scheduled for outpatient colonoscopy. Procedure-related pain, as experienced by the patient, was scored on a verbal rating scale (VRS). Endoscopists and endoscopy assistants rated patient pain likewise. Cohen’s kappa was used to measure the agreement in between ratings and logistic regression applied to test for potential predictors associated with underestimation of moderate-severe pain.

Results In total, 785 patients [median age: 54 years; females: n = 413] were included. Mild, moderate, and severe pain was reported in 378/785 (48%), 168/785 (22%), and 111/785 (14%) procedures respectively. Inter-rater reliability of patient pain comparing patients with endoscopists was κ = 0.29, p < 0.001 and endoscopy assistants and patients κ = 0.37, p = 0.001 (fair agreement).

In the 279 patients reporting moderate/severe pain, multivariable analysis showed that male gender (OR = 1.79), normal BMI (OR = 1.71), no history of abdominal surgery (OR = 1.81), and index-colonoscopy (OR = 1.81) were factors associated with a significant risk for underestimation of moderate/severe pain by endoscopists. Young age (OR = 2.05) was the only corresponding factor valid for endoscopy assistants.

Conclusions In colonoscopy, estimation of patient pain by endoscopists and endoscopy assistants is often inaccurate. Endoscopists need to pay specific attention to subgroups of patients, such as male gender and normal BMI, among whom there seems to an important risk of underestimation of moderate-severe pain.

Polypectomy including cold snare 14:00–15:00 Saturday, 30 April 2022

OP261 HOT VS COLD EMR FOR THE TREATMENT OF SESSILE COLORECTAL LESIONS OVER 10 MM

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Aims We aim to compare cold and hot snare endoscopic mucosal resection (CSP-EMR, HSP-EMR) in the management of sessile and flat colorectal polyps larger than 10 mm.

Methods Analysed data included endoscopic procedures from January 2019 to December 2020. A total of 164 polypectomies of flat lesions were performed in 108 patients. Lesions were classified according to Paris and JNET classifications. Both techniques consisted of submucosal injection, followed by en bloc or piece-meal resection. Technical success was defined as complete endoscopic resection. Efficacy was established as the absence of local recurrence during the first follow-up colonoscopy. Adverse events following the procedures were collected and analysed.

Results 79 lesions (in 51 patients) were treated with HSP-EMR and 85 lesions (in 57 patients) with CS-EMR. The average polyp size was 17.0 mm in the CS group and 18.5 mm in HSP group (p = 0.05). Technical success was achieved in 100% in the hot snare and 98.8% in CS-EMR (p > 0.05). Local recurrence was
OP264V LATERALLY SPREADING TUMOR EXTENDING TO THE DENTATE LINE: CHALLENGES OF ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD)

Authors: Alves da Silva J.L.¹, Falcão D.², Archer S.³, Marcos-Pinto R.¹, Pedrito J.¹, Küttnner-Magallhães R.¹
Institute: 1 Centro Hospitalar Universitário do Porto, Porto, Portugal
DOI: 10.1055/s-0042-1744827

82-year-old male referred due to a 56mm nodular-mixed type laterally-spreading tumour, Paris 0-IIs • Ila, located in the distal rectum, extending to the anal verge.

Endoscopic submucosal dissection (ESD) initiated with incision distal to the anal verge, involving 50% of its circumference, followed by the creation of a tunnel in an oral direction. A proximal mucosal incision was made to establish the tunnel’s endpoint. Progressive widening of the tunnel was performed until complete en bloc resection.

Rectal tumors extending to the dentate line are demanding to remove. Combination of anoderm incision, tunnel creation and retroversion allows en bloc ESD.

OP265 HYBRID ENDOSCOPIC SUBMUCOSAL DISSECTION IN PATIENTS WITH RECURRENT COLORECTAL LESIONS

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Institutes: 1 Zaporizhzhia State Medical University, Faculty Surgery Department, Zaporizhzhia, Ukraine; 2 Medical Centre “VITACENTER”, Endoscopy Department, Zaporizhzhia, Ukraine
DOI: 10.1055/s-0042-1744828

Aims: To assess the effectiveness of hybrid endoscopic dissection in the management of recurrent colorectal lesions in the two years follow up.

Methods: Our study included 27 patients with recurrent colorectal lesions. All cases were divided into two groups. The first group included 14 patients (51.85%; age – 54.73 ± 9.7; males – 57.14%) who underwent hybrid endoscopic submucosal dissection. The second group included 13 patients (48.14%; age – 53.22 ± 10.6; males – 53.84%) who underwent standard submucosal dissection.

Evaluation of outcomes included the incidence of adverse event rate, perforations, the proportion of en-bloc resections, the incidence of recurrence in the long term, and surgery.

Results: In the first group, the overall incidence of complications and perforations was lower (p<0.05) compared to the second. However, the rates of en-bloc resections in the second group was higher 78.6%. The average size of lesions in both groups was 25.54 mm (5D standard deviation – 11.44). There was no difference in rates of recurrences (p>0.05). In both groups there was no need for surgery. All statistical analyzes were performed using SPSS V27.0 software (IBM).

Conclusions: Our study showed that hybrid endoscopic submucosal dissection has a lower rate of complications, decreased procedure duration. However, there is no statistical difference in the frequency of recurrence in the long term follow up period compared to standard dissection. Which may indicate a safer use of hybrid submucosal dissection in recurrent tumors with a risk of submucosal fibrosis.

OP263V UNDERWATER ENDOSCOPIC SUBMUCOSAL DISSECTION OF A RECURRENT COLONIC ADENOMA

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DOI: 10.1055/s-0042-1744826

A patient with recurrent adenoma after piecemeal resection of a transverse colon LST was referred to our hospital. Endoscopy showed two sessile polyps (Kudo IV) with central scar (30 mm in total). Colon was filled with saline, underwater ESD was performed using Dual Knife (Olympus, Tokyo). Due to severe fibrosis, it was impossible to dissect mucosal and muscular layers so we resected muscular tissue, preserving serosal layer. Dissection was completed and tumor removed en bloc without adverse events. Specimen showed HGD adenoma and R0. Our case shows that underwater ESD is safe and effective for recurrent adenomas with severe fibrosis.

OP262 COLD SNARE POLYPECTOMY (CSP)/COLD EMR (C-EMR) FOR MEDIUM-SIZED (10-19MM) SESSILE COLONIC POLYPS: A PROSPECTIVE MULTICENTRE STUDY

Authors: Mangira D.¹, Raftopoulos S.², Hartley I.¹, Mack A.¹, Gazelakis K.¹, Nalankilli K.¹, Trinh A.³, Metz A.³, Appleyard M.⁴, Grimpen F.⁴, Elliott T.⁵, Brown G.⁶, Moss A.¹
Institutes: 1 University of Melbourne, Department of Gastroenterology, Western Health, Melbourne, Australia; 2 Peel Health Campus, Department of Gastroenterology, Perth, Australia; 3 Royal Melbourne Hospital, Department of Gastroenterology, Melbourne, Australia; 4 Royal Brisbane and Women’s Hospital, Department of Gastroenterology, Brisbane, Australia; 5 Ballarat Base Hospital, Department of Internal Medicine, Ballarat, Australia; 6 The Alfred, Department of Gastroenterology, Melbourne, Australia
DOI: 10.1055/s-0042-1744825

Aims: CSP is the standard of care for resecting small (<10mm) polypic colonics. However, limited data exists for its efficiency for medium-sized (10-19mm) sessile polyps. This study evaluated the efficacy and safety of CSP/C-EMR for medium-sized sessile colonics polyps.

Methods: An Australian prospective multicentre study was conducted between May-2018 and June-2021, including all consecutive cases of CSP/C-EMR for 10-19mm sessile colonic polyps. Once resection was deemed complete, the margins of resection sites were biopsied circumferentially and centrally. Primary outcome: presence of residual polyp in these biopsy specimens. Secondary outcomes: recurrence rate at first surveillance colonoscopy and rates of adverse events.

Results: CSP/C-EMR was performed for 350 polyps in 295 patients. Median polyp size: 15mm. Submucosal injection to lift polyps was used in 87.1% (n = 305) of polyps. Histology: 68.5% adenomas, 26.2% SSA/P without dysplasia, 3.8% SSA/P with dysplasia and 1.4% hyperplastic polyps. Primary outcome: Margin and central biopsies were positive in 1.7% (n = 6) and 0.3% (n = 1) of polyps respectively. Secondary outcome: Polyp recurrence was present in 1.7% (n = 4) of cases at first surveillance colonoscopy that had been completed for 64.2% (n = 225) of polyps at a median interval of 9.7 months. Adverse events occurred in 3.4% (n = 10) of patients: 1 had intraprocedural bleeding (clipped), 3 had self-limiting post-polypectomy bleeding, 4 had post-polypectomy pain and 2 had post-polypectomy syndrome. There were no perforations.

Conclusions: CSP/C-EMR for 10-19mm sessile colonic polyps is highly effective and safe. Rates of incomplete resection and recurrence at surveillance were low, with few adverse events.
OP266V  ESD OF A LARGE CECAL POLYP INVOLVING THE ILEOCECAL VALVE AND THE TERMINAL ILEUM

**Authors** Mavrogenis G.1, Bazerbach F.2, Mpalomenos D.1, Tsevgas I.1, Zachariadis D.1

**Institutes** 1 Mediterranean Hospital, Hybrid Interventional Endoscopy, Glyfada, Greece; 2 Centracare, Gastroenterology, Minnesota, United States

**Aim** An 83-year-old man was referred for endoscopic resection of a large cecal polyp that involved the ileocecal valve and extended 1 cm upstream in the terminal ileum.

**Methods** The lesion was removed en-block by means of ESD using various techniques: clip and band multifocal traction, pocket creation method, undersaline immersion technique, and various ESD-knives (Dual Knife, IT Knife). The lesion was removed en-block. Histology showed R0 resection of a 6 cm tubulo-villous adenoma with low grade dysplasia. Conclusion: We demonstrate the successful resection of a large ileocecal polyp with terminal ileum involvement by means of various ESD techniques.

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**OP267** SAFETY AND EFFICACY OF DOUBLE EUS-BYPASS VERSUS SURGICAL HEPATICOJEJUNOSTOMY AND GASTROJEJUNOSTOMY

**Authors** Bronswijk M.1,2, Lauwereys J.1,2, van Malenstein H.1, Laleman W.1, Jaekers J.1, Topal H.1, Topal B.1, Kunda R.4, Van der Merwe S.1

**Institutes** 1 University Hospitals Ghent, University of Ghent, Department of Gastroenterology and Hepatology, Leuven, Belgium; 2 Imelda Hospital Bonheiden, Department of Gastroenterology and Hepatology, Bonheiden, Belgium; 3 University Hospitals Ghent, University of Leuven, Department of Visceral Surgery, Leuven, Belgium; 4 University Hospital Brussels, Department of Surgery, Department of Gastroenterology and Hepatology, Department of Advanced Interventional Endoscopy, Brussels, Belgium

**Aims** Both gastric outlet obstruction (GOO) and biliary obstruction may occur simultaneously in individual patients. Small series have suggested that double EUS-bypass is feasible. Our aim was to compare same-session double EUS-bypass to open surgical hepaticojejunostomy and gastrojejunostomy.

**Methods** A tertiary single-center retrospective analysis was performed of all consecutive double EUS-procedures performed from 2018 to March 2021. Consecutive historical surgical controls were extracted from the institutional database. For EUS-guided gastroenterostomy the WEST-technique was used, whereas for biliary obstruction, EUS-guided hepaticojejunostomy, rendez-vous, cholecdo-bulbostomy or antegrade stenting were allowed.

**Results** In total (n = 42), 12 patients (28.6%) were treated with EUS and 30 patients with surgery (71.4%). At baseline, EUS-treated patients showed a higher Charlson Comorbidity Index (9.0 vs. 6.5, p< 0.011). Technical success was achieved in 91.7% of EUS-treated patients vs. 100% in the surgical group (p< 1.000). Clinical success, defined as a GOOS score >2 and serum bilirubin decrease >50%, was achieved in 66.7% and 70.0% respectively (p = 0.833). In the EUS group, median time to oral intake (1.0 vs. 6.0 day(s), p< 0.001) and median hospital stay were significantly shorter (11.0 vs. 23.0 days, p = 0.001). Using the ASGE lexicon, the total number of adverse events (AE) was similar in both groups (5 [41.7%] vs. 15 [46.7%] events, p = 1.000), with an even distribution in severe, moderate and mild AE.

**Conclusions** Despite being used in a patient population with more comorbid conditions and more advanced disease stage, double EUS-bypass achieved similar efficacy and safety, as well as shorter hospital stay and time to oral intake, when compared to surgery.

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**OP268** DEDICATED DIGITAL MRNA DETECTION METHOD WITH EUS FNA SAMPLES FOR ESTABLISHING PANCREATIC ADENOCARCINOMA (PDAC) GENE EXPRESSION PROFILE SIGNATURE


**Institutes** 1 IDIBAPS, Barcelona, Spain; 2 Endoscopy Unit, ICMDIM. Hospital Clinic, Barcelona, Spain; 3 Pathology Department, CDB. Hospital Clinic, Barcelona, Spain; 4 Oncology Department, ICCHIMO. Hospital Clinic, Barcelona, Spain; 5 Gastroenterology Service, ICMDIM. Hospital Clinic, Barcelona, Spain; 6 Hepatobiopancreatic Surgery, ICMDIM. Hospital Clinic, Barcelona, Spain

**Aims** To evaluate the adequacy of EUS FNA samples for performing gene expression analysis with digital mRNA and to investigate their correlation with gene expression profile (genEP) of the corresponding resected specimen.

**Methods** 22G/19G needles (both n = 9) (EUS-3 Cook®/Olympus EZ-shot®), respectively were used. Number of passes was decided with rapid on site evaluation with an extrapass to ensure enough sample for molecular analysis. RNA was extracted from both HistoCore-embedded cytological specimens and from their corresponding formalin fixed paraffin embedded surgical specimens. The NanoString nCounter gene expression system (NanoString Technologies; Seattle, WA) was used for genEP, with a custom nCounter CodeSet (Integrated DNA Technologies, BVBA, Belgium) checking a panel of 52 genes (cancer associated fibroblasts, immune/myeloid-monoctylic cells and checkpoint blockade and epithelial-mesenchymal transition). Heatmaps were developed using agglomerative clustering to compare genEP.

**Results** Eighteen PDAC patients (11 females and 4 men) were included. Mean number of passes was 1.7 ± 0.7. All 36 samples (cellular blocks and resected specimens) passed the RNA quality control test for genomic analysis with Nanostring. A different pattern of genEP was found between cytologies and the surgically resected specimens. Enriched expression of more specific fibroblasts’ genes was seen in samples from surgical specimens whereas samples from EUS FNA were enriched with immunological cells.

**Conclusions** Targeted mRNA expression in EUS FNA samples is feasible. EUS FNA samples might be an optimal approach for tumour immunophenotyping but not to identify fibroblast targets in PDAC.

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**OP269** ENDOSCOPIC ULTRASOUND-GUIDED ANGGIO- THERAPY USING COIL AND CYANOACRYLATE GLUE FOR THE MANAGEMENT OF VISCERAL ARTERY PSEUDOANEURYSMS IN PATIENTS OF PANCREATITIS: A SAFE AND EFFECTIVE TECHNIQUE

**Authors** Samanta J.1, Dhar J.1, Birda C.L.1, Mandavdhare H.S1, Gupta P.2, Gorsi U.7, Kumar K.H.1, Gupta V.3, Kochhar R.1

**Institutes** 1 Postgraduate Institute of Medical and Research, Gastroenterology, Chandigarh, India; 2 Postgraduate Institute of Medical and Research, Radiology, Chandigarh, India; 3 Postgraduate Institute of Medical and Research, Surgery, Chandigarh, India

**Aims** Visceral artery pseudoaneurysms (PSA) can develop in patients with acute (AP) and chronic pancreatitis (CP) and EUS-guided angioembolisation (EUS-A) using coil and glue injection is a relatively newer modality with limited experience. This study aimed at studying the safety and efficacy of this modality for management of PSA in AP/CP patients.
Methods This study was conducted in a tertiary care center between September 2018-August 2021 including all consecutive AP or CP patients with visceral artery PSA, who were unsuitable for radiological angioembolisation. The patients underwent EUS-A using coil and cyanoacrylate glue (CYA) injection. The number of coils used and amount of CYA injected depended on the size of the PSA. PSA characteristics, technical success, and adverse events were documented.

Results A total of 15 patients (median age 44.0 (17-56) yrs; male 14; 93.3 %) with 16 PSA underwent EUS-A. Most of the patients had underlying CP (12; 80.0 %). The vessel involved was splenic artery in 12 (75.0 %) followed by gastroduodenal artery (425.0 %). The median size of the PSA was 2.8 cm (0.9–9.7 cm). A median of 2 coils (1-8) and 2 ml of CYA (1-5 ml) was used. Complete obliteration in the first session was achieved in 15 PSA (93.8 %). One patient had recurrence of PSA in the splenic artery 9 months post-procedure and was managed with repeat EUS-A. 1 patient developed splenic infarct post-embolization and managed conservatively. No other complications were documented.

Conclusions EUS-guided coil and CYA injection is a safe and effective alternative technique for the management of visceral artery PSA.

OP270 ROLE OF VASCULAR ENDOTHELIAL GROWTH FACTOR IN DETERMINING THE MALIGNANT POTENTIAL OF PANCREATIC CYSTS

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Institutes 1 Cairo University, Department of Gastroenterology and Hepatology, Cairo, Egypt; 2 Mansoura University, Department of Gastroenterology and Hepatology, Mansoura, Egypt; 3 Armed Forces college of medicine, Department of Gastroenterology and Hepatology, Cairo, Egypt; 4 Assiut University, Department of Gastroenterology and Hepatology, Assiut, Egypt


Aims Pancreatic cysts are accidentally discovered in about 13 % of cross-sectional imaging. Cysts with mucinous content have higher malignant potential. Therefore, differentiation between benign and malignant cysts is crucial. The aim of this study was to evaluate the possible roles of cystic fluid vascular endothelial growth factor A and R2 (VEGF-A and VEGF-R2) in differentiating between malignant and benign pancreatic cysts.

Methods This prospective study was conducted on 76 patients diagnosed with pancreatic cysts using different imaging modalities. All patients were subjected to full history taking, clinical examination and EUS with FNA of pancreatic cystic fluid. The aspirated fluid was tested for VEGF-A, VEGF-R2, CEA, and amylase.

Results Based on the final diagnosis, the mucinous cyst group included mucinous cystadenoma (17.1 %), high grade IPMN (10.5 %), low grade IPMN (7.9 %), and pancreatic adenocarcinoma (5.3 %). The non-mucinous cyst group included pancreatic pseudocysts (35.5 %), serous cystadenoma (21.1 %), and cystic lymphangioma (2.6 %). When comparing the study groups regarding pancreatic cyst fluid markers (VEGF-A, VEGF-R2, amylase, and CEA), there was no significant difference between the two groups regarding all parameters (p > 0.05), except for CEA that was significantly higher in the mucinous group (p < 0.001). Using a cut-off value of 18 ng/ml, CEA has specificity of 82 % in differentiating between mucinous and non-mucinous cysts. Combining CEA with VEGF-R2 increased the specificity to 94 % (p = 0.02).

Conclusions VEGF-A and VEGF-R2 assay couldn’t alone differentiate potentially malignant pancreatic cysts but combining CEA with VEGF-R2 can improve the diagnostic yield in identifying mucinous pancreatic cysts.

OP271 ADDED VALUE OF SECRETIN DURING MAGNETIC RESONANCE IMAGING TO IDENTIFY DUCTAL COMMUNICATION IN PANCREATIC CYSTIC NEOPLASMS (IMAGE-S): PROSPECTIVE STUDY

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Institutes 1 Amsterdam UMC, University of Amsterdam, Department of Gastroenterology and Hepatology, Amsterdam, Netherlands; 2 Amsterdam UMC, University of Amsterdam, Department of Surgery, Amsterdam, Netherlands; 3 Amsterdam UMC, University of Amsterdam, Department of Radiology, Amsterdam, Netherlands; 4 Leiden University Medical Center, Department of Gastroenterology and Hepatology, Leiden, Netherlands


Aims The key feature of side-branch intraductal papillary mucinous neoplasms (SB-IPMN) is its connection with the pancreatic ductal system. This feature could be helpful to distinguish potentially premalignant SB-IPMN from benign lesions. This study aimed to investigate if secretin-enhanced magnetic resonance cholangiopancreatography (s-MRCP) improved visualization of ductal connection in PCN.

Methods We performed a prospective pilot study including consecutive adult patients who underwent follow-up for at least one pancreatic cyst without clear pancreatic duct (PD) connection on conventional MRCP. Patients provided informed consent to undergo additional s-MRCP with 0.2 mg/kg intravenous secretin during routine follow-up. All scans were re-read by two experienced abdominal radiologists. Primary endpoint was clear PD connection (defined as the interpreting radiologist being more than 80 % certain of PD connection).

Results We included 21 patients (median age 70 years [IQR 61-75 years], predominantly females [n = 15, 67 %], median cyst size 18 mm [IQR 13-24 mm]). Both readers reported significantly higher pancreatic ductal visibility after s-MRCP when compared to conventional MRCP (p = 0.030 [Reader 1], p = 0.041 [Reader 2]). This did however not result in improved visibility of PD connection after s-MRCP (p = 0.166 for reader 1, p = 0.807 for reader 2).
describe outcomes of initial experiences with EVT in a tertiary referral center in AL treatment after esophago-gastric surgery.

Methods For this retrospective cohort study, all patients treated with EVT for AL in the UGI tract at a tertiary referral center, between January 2018 and October 2021, were included. This period, patients with AL were primarily treated with EVT. Data on patient characteristics, EVT and outcomes were analyzed. The primary endpoint was success rate of EVT alone, defined as closure of the defect assessed by endoscopy or CT-scan.

Results: 38 patients were included (31 men, mean age 66 yrs [SD 9.3]) (Table 1). Successful treatment was achieved in 28 patients (74 %). In 10 patients EVT failed: one deceased during treatment (radiation pneumonitis) and 9 underwent additional surgery. Median hospital stay was 42 days, median duration of EVT was 27 days, with median 6 EVT-related endoscopies and 5 days between sponge exchanges. 22 patients (58 %) received additional drainage. EVT associated complications occurred in two patients (5 %): in one patient the overtube caused iatrogenic defect expansion and one developed a tracheo-esophageal fistula.

Table 1 Baseline characteristics.

<table>
<thead>
<tr>
<th>Total number of patients, n</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>31</td>
</tr>
<tr>
<td>Female</td>
<td>7</td>
</tr>
<tr>
<td>Age in years, mean (range, SD)</td>
<td>66.3 (37-78, 9.3)</td>
</tr>
<tr>
<td>Neoadjuvant perioperative therapy, n</td>
<td>37</td>
</tr>
<tr>
<td>None</td>
<td>6</td>
</tr>
<tr>
<td>Chemoradiotherapy</td>
<td>26</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>5</td>
</tr>
<tr>
<td>Operation technique, n</td>
<td>37</td>
</tr>
<tr>
<td>Ivor Lewis</td>
<td>22</td>
</tr>
<tr>
<td>McKeown</td>
<td>5</td>
</tr>
<tr>
<td>Salvage esophagectomy</td>
<td>1</td>
</tr>
<tr>
<td>Total gastrectomy with distal esophagectomy</td>
<td>2</td>
</tr>
<tr>
<td>Total gastrectomy</td>
<td>7</td>
</tr>
<tr>
<td>Anastomosis, n</td>
<td>38</td>
</tr>
<tr>
<td>Esophago-jejunal</td>
<td>12</td>
</tr>
<tr>
<td>Esophago-gastric</td>
<td>26</td>
</tr>
<tr>
<td>Intrathoracic</td>
<td>21</td>
</tr>
<tr>
<td>Cervical</td>
<td>5</td>
</tr>
</tbody>
</table>

Conclusions EVT is a paradigm shifting treatment potentially preventing surgical re-intervention in patients with AL after UGI surgery, with a 74 % success rate. More experience with the technique and indications for use will likely improve success rates.
Conclusions
p = 0.04). On the other hand, patients with previous treatment with stent placement had a significantly higher closure rate (90 % vs 69 %; p = 0.003).

Methods
In November 2018, a Spanish registry of patients with upper gastrointestinal tract defects who underwent EVT using Eso-SPONGE was initiated. All demographic, clinical and technical variables related to the procedure were collected in a Redcap-type database. The patients were followed for 6 months to assess the persistence of the closure and/or the appearance of adverse events.

Results
Sixty-four patients were included in the study. The most frequent indications were: anastomotic suture dehiscence after esophageal neoplasia surgery (n = 15), cardial neoplasia surgery (n = 6), gastric neoplasia surgery (n = 12), obesity surgery (n = 10) and spontaneous esophageal perforation (n = 4). The median size of the cavity was 6.7 x 3.6 cm. Median time to initial EVT was 8 days after the surgery. The median duration of EVT was 19 days. The median number of sponges in place was 5 and the sponge exchange interval was 3.8 days. In 53 cases (83 %), closure of the defect was achieved. Seven patients (11 %) presented stricture, 2 (3 %) presented new-onset pneumonia and 1 (1.6 %) patient presented an aortoesophageal fistula. Hospitals with a case volume greater than 5 had a significantly higher closure rate (90 % vs 69 %; p = 0.004). On the other hand, patients with previous treatment with stent placement had significantly lower closure rate (89 % vs 37 %; p = 0.003).

Conclusions
EVT is an effective and safe technique for the treatment of upper gastrointestinal perforations and anastomotic leaks.

**OP275V** ESOPHAGEAL PERFORATION AFTER VOICE PROSTHESIS PLACEMENT. ENDOSCOPIC THERAPY WITH ESO-SPONGE

**Authors** Fernandez-Simon A.1, Sendino O.1, Cordova H.1, Pujol-Vila L.2, Aviles-Jurado F.X.2

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**DOI** 10.1055/s-0042-1744837

**Aims** This study reports clinical outcomes from the Spanish EVT registry.

**Methods** In November 2018, a Spanish registry of patients with upper gastrointestinal tract defects who underwent EVT using Eso-SPONGE was initiated. All demographic, clinical and technical variables related to the procedure were collected in a Redcap-type database. The patients were followed for 6 months to assess the persistence of the closure and/or the appearance of adverse events.

**Results** Sixty-four patients were included in the study. The most frequent indications were: anastomotic suture dehiscence after esophageal neoplasia surgery (n = 15), cardial neoplasia surgery (n = 6), gastric neoplasia surgery (n = 12), obesity surgery (n = 10) and spontaneous esophageal perforation (n = 4). The median size of the cavity was 6.7 x 3.6 cm. Median time to initial EVT was 8 days after the surgery. The median duration of EVT was 19 days. The median number of sponges in place was 5 and the sponge exchange interval was 3.8 days. In 53 cases (83 %), closure of the defect was achieved. Seven patients (11 %) presented stricture, 2 (3 %) presented new-onset pneumonia and 1 (1.6 %) patient presented an aortoesophageal fistula. Hospitals with a case volume greater than 5 had a significantly higher closure rate (90 % vs 69 %; p = 0.004). On the other hand, patients with previous treatment with stent placement had significantly lower closure rate (89 % vs 37 %; p = 0.003).

**Conclusions** EVT is an effective and safe technique for the treatment of upper gastrointestinal perforations and anastomotic leaks.

**OP277V** BIDIRECTIONAL RECANALIZATION OF A COMPLETE POSTRADIATION STRICTURE OF THE HYPOPHARYNX AND ESOPHAGUS

**Authors** Mavrogenis G.1, Bazerbachi F.2, Markoglou K.3, Porceddu S.4, Gupta S.4, Hourigan L.4

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**DOI** 10.1055/s-0042-1744840

**Aim** A 65-year-old patient was referred for management of a 5-cm long complete postradiation stricture of the hypopharynx and esophagus. Endoscopic bidirectional recanalization was planned.

**Methods** The pre-existing gastrostomy site was reinforced with gastropexy and was dilated up to 14 mm. Antegrade and retrograde recanalization was successfully performed using ESD techniques without need for fluoroscopy. The patient had an uneventful recovery. In the next 4 months the stricture underwent serial dilations up to 18 mm to keep it open.

**Conclusion** Although technically challenging, bidirectional recanalization of atretic strictures may spare the need for more invasive and morbid surgery.

**OP278V** THE TECHNIQUE OF CLOSING A TRACHEO-ESOPHAGEAL FISTULA UNDER ENDOSCOPIC AND BRONCHOSCOPY GUIDANCE

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**Institute** T SHARP Health care, Gastroenterology, San Diego, United States

**DOI** 10.1055/s-0042-1744841

A 63-year-old female with advanced COPD and esophageal adenocarcinoma was treated with radiation, chemotherapy, and distal esophagectomy. Her cancer recurred at the anastomosis and was palliated with stenting using LAMS. She developed a tracheoesophageal fistula resulting in aspiration and was referred for endoscopic treatment. The fistula was closed using an atrial sepal closure device (4 mm waist, 12 mm right atrial disk) under endoscopic and bronchoscopy guidance. Despite a technically successful procedure, she had a progressive respiratory failure due to underlying advanced COPD and the additional injury incurred as a result of aspiration. She eventually passed away under hospice care.

**OP276V** CLOSE THE HOLE AND BACK ON TRACK

**Authors** Bastens C.1, Plomteux O.1, Feytmans B.2, Lamani Y.1, Dandrifosse A.-C.1, Bischops R.2, Lecerq P.1

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**DOI** 10.1055/s-0042-1744839

We report the videocase of a refractory and delayed esophageal ulcer healing after endoscopic submucosal dissection of an early esophageal adenocarcinoma developed on a C1M10 Barrett’s esophagus in a patient with previous history of Roux-en-Y gastric bypass. Gastric-gastric fistula related to gastric minimizer was found to be responsible for PPI refractory GERD. Endoscopic closure of the gastro-gastric fistula allowed healing of the post-ESD esophageal ulcer. This endoscopic treatment allowed the patient to proceed to the next step of the Barrett’s esophagus endoscopic treatment (by radiofrequency ablation).

**OP279V** BLEEDING PARASTOMAL VARICES: ENDO-SCOPIC ULTRASOUND TO THE RESCUE

**Authors** Samanta J.1, Dhar J.1, Bharath P.1, Kumar A.1, Bhujade H.2, Gupta P.2, Kochhar R.1

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**DOI** 10.1055/s-0042-1744842

Stomal varices are rare causes of variceal bleeding. Endoscopic ultrasound (EU-5)-guided angiotherapy have not been reported earlier for parastomal varices.
We present a 52-year gentleman, a diagnosed case of alcohol-related cirrhosis with ileostomy for tubercular abdominal cocoon, presented with stoma bleed. CT angiography revealed ileostomy with varicosities and two large vascular channels. Considering the poor general condition of the patient, EUS-guided angiotherapy was performed. In two sessions, 1 coil and 2 ml cyanoacrylate glue were injected each into the two separate vascular channels and the varices were obliterated. On 6-month follow-up, patient is doing fine with no further bleed.

**OP280 ENDOSCOPIC REDUCTION OF INTUSSUSCEPTION IN 19 PATIENTS WITH PEUTZ-JEGHERS SYNDROME**

**Authors** Oguro K.1, Sakamoto H.1, Yano T.1, Funayama Y.1, Kitamura M.1, Miyahara S.2, Nagayama M.1, Sunada K.1, Kawarai Lefor A.2, Yamamoto H.1

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**DOI** 10.1055/s-0042-1744843

**Aims** Intussusception caused by intestinal polyps in patients with Peutz-Jeghers syndrome (PJS) usually requires laparotomy. Several patients who underwent successful endoscopic reduction were reported in the development of double-balloon endoscopy (DBE). The aim of this study is to evaluate the feasibility and safety of endoscopic reduction of intussusception.

**Methods** We retrospectively reviewed patients who underwent DBE for intussusception due to small bowel polyps in patients with PJS from January 2004 to June 2020.

**Results** DBE was performed 27 times (antegrade 22, retrograde 5) in 19 patients, and endoscopic reduction attempted for 25 lesions during the study. Ten patients (10/19, 53%) had associated symptoms. Retrograde DBE identified seven polyps causing intussusception, all of which were not reduced, and endoscopic reduction performed. Of these, five were treated with ischemic polypectomy, and two subsequently treated with antegrade DBE which identified 20 polyps causing intussusception and eight polyps were reduced at DBE. Endoscopic reduction was attempted for 12, and six were reduced completely. Finally, eight polyps were treated with endoscopic resection, 11 with ischemic polypectomy, and one required surgical resection because of difficult endoscopic treatment. Multiple DBEs were required to treat single polyps for three lesions. The final per-lesion success rate of endoscopic treatment was 96% (24/25). Two patients developed mild acute pancreatitis after DBE.

**Conclusions** Endoscopic reduction of intussusception is feasible to avoid laparotomy in patients with PJS.

**OP281 DUAL EMISSION LASER TREATMENT AND ARGON PLASMA COAGULATION IN SMALL BOWEL VASCULAR LESIONS ABLATION: A PILOT STUDY**

**Authors** Tontini G.E.1, Rimondi A.2, Scaramella L.3, Topa M.2, Penagini R.1, Vecchi M.3, Ebi L.1

**Institutes** 1 Università degli Studi di Milano, Department of Pathophysiology and Organ Transplantation, Milano, Italy; 2 Università degli Studi di Milano, Post Graduate Specialization in Gastrointestinal Diseases, Milano, Italy; 3 Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico, Gastroenterology and Endoscopy Unit, Milano, Italy

**DOI** 10.1055/s-0042-1744844

**Aims** The 1.9/1.5μmDEELT is a recent technology with promising results in treating gastrointestinal bleedings. In this manuscript, we describe our experience with this tool in ablating small bowel angioectasias through a double balloon enteroscope, comparing clinical outcomes with a matched cohort of Argon Plasma Coagulation (APC)-treated patients.

**Methods** We conducted a single centre, retrospective, propensity score matched study. We recruited all patients affected by small bowel angioectasias treated with 1.9/1.5μmDEELT as well as a cohort of patients with analogous small bowel lesions treated with APC. We collected safety, feasibility, haemoglobin levels and the need for blood transfusion in the 6 months before and after each procedure. We matched the procedures, considering age, sex and haemoglobin levels.

**Results** We obtained a cohort of seventeen 1.9/1.5μmDEELT treated procedures matched with a similar cohort of APC-treated procedures (mean weighted distance 0.197). We found no differences in the levels of haemoglobin at 1 month (p = 0.51) and 6 months (p = 0.77) and no difference in the overall number of transfusions (p = 0.65) between the 1.9/1.5μmDEELT and the APC group.

**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>APC-treated cohort n = 17</th>
<th>1.9/1.5μm DEELT-treated cohort n = 17</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Feasibility</td>
<td>Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17 out of 17</td>
<td>17 out of 17</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>17 out of 17</td>
<td>17 out of 17</td>
<td>1.00</td>
</tr>
<tr>
<td>Δ Haemoglobin at 1 month (g/dl) – mean</td>
<td>+0.93 (IQR 0.20 – 2.00)</td>
<td>+1.31 (IQR 0.17 – 2.02)</td>
<td>0.51</td>
</tr>
<tr>
<td>Δ Haemoglobin at 6 months (g/dl) – mean</td>
<td>+1.06 (IQR 0.60 – 1.85)</td>
<td>+1.30 (IQR 0.10 – 2.25)</td>
<td>0.77</td>
</tr>
<tr>
<td>Patients requiring transfusions 6 months -after</td>
<td>6 out of 16 (1 NA)</td>
<td>6 out of 15 (2 NA)</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Fig. 1**

**Conclusions** This retrospective, random-forest matched study demonstrates that 1.9/1.5μmDEELT is a feasible, safe and effective alternative to APC in the treatment of small bowel vascular lesions.

**OP282V PLAYING HIDE-AND-SEEK – ENDOSCOPIC SUBMUCOSAL DISSECTION OF A LARGE POLYPOID LESION OF THE TERMINAL ILEUM**

**Authors** ONeill C.1, Barreiro P.1,2, Mascareñas A.1, Franco A.R.1, Mendo R.1, Félix C.1, Albuquerque A.C.1, Chagas C.1

**Institutes** 1 Centro Hospitalar Lisboa Ocidental, Gastroenterology Department, Lisbon, Portugal; 2 Hospital Lusíadas de Lisboa, Gastroenterology Department, Lisbon, Portugal; 3 Centro Hospitalar Lisboa Ocidental, Pathology Department, Lisbon, Portugal

**DOI** 10.1055/s-0042-1744845

**65-year-old man referred for treatment decision of a large cecal lesion identified at screening colonoscopy. Subsequent colonoscopy identified no lesion in the cecum; suddenly a 4-cm semi-pedunculated broad-base ileal lesion, without...
clear invasive features protruded from the ileocecal valve to the cecum. ESD was successfully performed with en-bloc excision, without adverse events. Pathological analysis showed a 48mm-tubulovillous low-grade-dysplasia adenoma, R0.

OP283  ARTIFICIAL INTELLIGENCE AND CAPSULE ENTEROSCOPY: A BINARY CONVOLUTIONAL NEURAL NETWORK MODEL APPROACH FOR THE AUTOMATIC DETECTION OF ULCERS AND EROSIONS

Authors  Mascarenhas Saraiva M.1, Afonso J.1, Ribeiro T.1, Ferreira J.2, Andrade P.1, Cardoso H.1, Mascarenhas Saraiva M.N.1, Lopes S.1, Macedo G.1

Institutes  1 Centro Hospitalar São João, Porto, Portugal; 2 Faculty of Engineering of the University of Porto, Porto, Portugal; 3 Manoph Gastroenterology Clinic Porto, Porto, Portugal


Aims Ulcers and erosions are frequent findings in capsule endoscopy (CE) exams. CE is a key element in the follow up of patients with Crohn’s Disease (CD). Nevertheless, reading capsule endoscopy exams is time-consuming and prone to errors. Convolutional neural networks (CNN) are artificial intelligence tools with high performance levels in image analysis. This study aims to develop a CNN-based model for automatic detection of ulcers and erosions in CE images.

Methods The development of CNN was based on a database of CE images. This database included normal small intestinal mucosa images or non-eroding findings and images of enteric ulcers and erosions. For CNN development, 19340 images (16175 normal mucosa, 3165 ulcers, or erosions) were ultimately extracted. Two image datasets were created for CNN training and testing. Images of normal mucosa and images of enteric ulcers and erosions. For CNN development, 19340 images (16175 normal mucosa, 3165 ulcers, or erosions) were ultimately extracted. Two image datasets were created for CNN training and testing. Images of normal mucosa and images of enteric ulcers and erosions.

Results The network was 96 % sensitive and 98 % specific for detection of ulcers and erosions in the small bowel, providing accurate predictions in 98 %. The CNN had a frame reading rate of 149 frames per second.

Conclusions The developed algorithm accurately detects ulcers and erosions in CE frames. The development of these automatic systems may allow to improve the diagnostic yield of CE for these lesions and increase the efficiency of the reading process of CE exams.

OP284  MOTORIZED SPIRAL ENTEROSCOPY – A SINGLE TERTIARY CENTER EXPERIENCE

Authors  Falt P.1, Urban O.1

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Aims The purpose of our study was to evaluate efficiency and safety of motorized spiral enteroscopy (PSE, PowerSpiral Enteroscopy) in routine clinical setting.

Methods We prospectively evaluated all consecutive patients investigated by PSE in our tertiary endoscopy center between July 2019 and October 2021.

Results A total of 62 examinations in 47 patients (55 % males, mean age 58 ± 18 years) were performed. Indication for PSE were symptoms with suspected small bowel disease (29), bleeding with positive capsule enteroscopy (17), Crohn’s disease (6), celiac disease (2), hepaticojunostomy (3) and others (4). Technical success, defined as insertion of the spiral beyond duodenojejunal flexure or ileocecal valve, was achieved in 95 % (59/62) of cases. In 87 % (55/62) of cases, depth of insertion was considered sufficient. Diagnostic yield was 93 % (41/44) of patients after exclusion follow-up procedures. Total enteroscopy was indicated in 11 patients and it was achieved in 82 % (9/11), either by antegrade in 2 or by combined approach in 7 cases. Major complications occurred in 2 patients (3 % of procedures). One patient suffered from mild acute pancreatitis after total enteroscopy. There was one intussusception of the sigmoid during endoscopy withdrawal resolved by parallel insertion of colonoscope.

Conclusions In our series, PSE shows high technical success rate of antegrade, retrograde and total enteroscopy, high diagnostic yield and low occurrence of significant complications.

Endoscopy beyond the lumen  15:30–16:30  Saturday, 30 April 2022  Club H

OP285  EUS-GUIDED GASTROJEJUNOSTOMY VERSUS DUODENAL STENTS FOR MALIGNANT GASTRIC OUTLET OBSTRUCTION: AN INTERNATIONAL MULTI-CENTER PROPENSITY SCORE MATCHED COMPARISON

Authors  de Gooyer P.1, Vanella G.2, van Bronswijk M.3, Mandarino F.3, Fockens P.1, Laleman W.3, van Malenstein H.3, Dell’Anna G.2, van Wanrooij R.1, Arcidiacono P.2, van der Merwe S.3, Voermans R.P.1

Institutes  1 Amsterdam UMC, Gastroenterology and Hepatology, Amsterdam, Netherlands; 2 IRCCS San Raffaele Scientific Institute, Milan, Italy; 3 University Hospitals Gasthuisberg, University of Leuven, Leuven, Belgium


Aims Duodenal self-expandable metal stents (SEMS) for malignant gastric outlet obstruction (GOO) are prone for recurrent GOO. EUS-guided gastrojejunostomy (EUS-GJ) is emerging as a novel technique which potentially leads to less recurrent GOO. Advantages over SEMS have been evaluated in retrospective studies with poor control for confounders. Our aim was to compare efficacy, safety and dysfunction rate of EUS-GJ and SEMS in patients with GOO using propensity-score matching.

Methods We conducted an international multicenter retrospective analysis of all consecutive patients undergoing either duodenal SEMS placement or EUS-GJ for a malignant GOO between 2015–2021 in 3 European centers. Patients with follow-up < 30 days were excluded. Primary outcomes were clinical success (possibility to eat at least soft solids after the procedure (GOO scoring system ≥ 2) and stent dysfunction (recurrence of GOO(GOOS ≤ 1) after initial clinical success). A propensity score-matched(1:1) analysis was performed using age, sex, underlying disease, disease stage, ascites and peritoneal carcinomatosis as variables.

Results A total of 224 patients were identified receiving either EUS-GJ(107) or SEMS(107). After matching, 176 patients (88 per arm) were matched. Mean age was 66 years (SD ± 11.8), 58 % had pancreatic cancer, 32 % peritoneal metastasis and 35 % ascites. No significant differences in baseline characteristics were detected. Primary outcome is summarised in Table 1 and Figure 1. Overall adverse events(10.2vs.20.5 %, p = 0.093) did not differ.
Technical success 83 (94.3 %) 86 (97.7 %) 0.39 (0.07 – 2.04) 0.444
Clinical success 80 (90.9 %) 66 (75 %) 3.33 (1.39 – 8.00) 0.008
Dysfunction (after clinical success) 1 (1.3 %) 17 (25.8 %) 0.04 (0.01 – 0.28) <0.001
Median time to dysfunction, days (IQR) 243 57 (27 – 169.5) 0.222

Conclusions EUS-GJ resulted in higher initial clinical success and lower stent dysfunction rates with comparable safety in comparison with duodenal SEMS. These data suggest that EUS-GJ may be preferred over duodenal SEMS in patients with a malignant gastric outlet obstruction.

OP286 THE OVER THE SCOPE GRASPER – A NEW TOOL FOR PANCREATIC NECROSECTOMY AND BEYOND – FIRST MULTICENTER EXPERIENCE

Authors Brand M.1, Bachmann J.2, Schlag C.2, Hügle U.2, Rahman I.3, Wedi E.4, Walter B.7, Möschler O.3, Meining A.1

Institutes 1 University of Würzburg, Department of Internal Medicine II, Würzburg, Germany; 2 University of Munich, Department of Surgery – Klinikum rechts der Isar, Munich, Germany; 3 University of Zürich, Department for Gastroenterology and Hepatology, Zürich, Switzerland; 4 Klinikum Köln-Holweide, Department for Gastroenterology, Köln, Germany; 5 University Hospital Southampton, Gastroenterology, Southampton, United Kingdom; 6 Sana Klinikum Offenbach, Gastroenterology, Offenbach, Germany; 7 University of Ulm, Department of Internal Medicine I, Ulm, Germany; 8 Marienhospital Osnabrück, Gastroenterology, Osnabrück, Germany


Aims Endoscopic treatment of pancreatic necrosis can be challenging and time consuming because sticky necrotic debris is sometimes difficult to remove. With the Over-The-Scope-Grasper, a new tool has recently become available for this purpose, which is also useful for other indications. The aim of this observational study was to evaluate the efficacy and safety of this new device in a multicenter setting.

Methods The Over-The-Scope-Grasper (OTSG XcavatorTM – Ovesco Endoscopy AG, Tübingen, Germany) was used in 8 centers between November 2020 and October 2021 for appropriate indications. Procedural parameters were documented in a predefined questionnaire, with special respect to clinical success and safety.

Results A total of 50 procedures were performed. Most of the procedures were pancreatic necrosectomies (31 transgastric, 4 transduodenal). In 69% access to the necrosis cavity was established by a lumen apposing metal stent (LAMS). The technical and clinical success of necrosectomy was 97%, with a mean of 7 pieces of necrosis removed (mean procedure time 47 min). In addition, the device has been used to remove blood clots (n = 5), to clear insufficiency cavities before endoluminal vacuum therapy (n = 5), and to remove foreign bodies from the upper gastrointestinal tract (n = 5). No clinically relevant complications were reported in any of the 50 procedures.

Conclusions First multicenter data demonstrate that the Over-The-Scope-Grasper is an effective and safe device for endoscopic pancreatic necrosectomy. Due to its easy handling the device is also appropriate for removing foreign bodies and blood clots, or cleaning insufficiency cavities prior to endoluminal vacuum therapy.

OP287 OVERSTITCH™ ENDOSCOPIC SUTURING SYSTEM FOR GASTROINTESTINAL APPLICATIONS: INITIAL RESULTS FROM A PROSPECTIVE MULTICENTER EUROPEAN REGISTRY

Authors Maselli R.1, Palma R.1, Traina M.2, Granata A.2, Juzgado D.3, Bissello M.4, Neuhaus H.5, Beyna T.5, Bansi D.6, Prades L.7, Bhandari P.8, Abdellah M.9, Haji A.9, Gubbio I.9, Haidry R.10, Repici A.1

Institutes 1 Humanitas Research Hospital, Rozzano, Milan, Italy; 2 ISMETT, Palermo, Italy; 3 Quirón Salud, Madrid, Spain; 4 University of Padua, Padua, Italy; 5 Evangelisches Krankenhaus, Düsseldorf, Germany; 6 Evangelisches Krankenhaus, Düsseldorf, Italy; 7 Imperial College London, London, United Kingdom; 8 Portsmouth University Hospital, Portsmouth, United Kingdom; 9 King’s College, London, United Kingdom; 10 University College London Hospital, London, United Kingdom


Aims OverStitch Endoscopic suturing devices are currently used for a wide range of applications. Recently a new single-channel version has been introduced, OverStitch-Sx™. A European registry was created to prospectively collect technical and clinical data regarding both OverStitch™ and OverStitch-Sx™ Systems, in order to provide procedural outcomes and find correlation between procedural characteristics and outcomes.

Methods Patients who underwent endoscopic OverStitch™ or OverStitch-Sx™ suturing from January 2018 to December 2020 at 9 European-Centers were enrolled in the registry. Data regarding type of disease treated, suturing pattern, and outcomes were registered. The technical feasibility (the success to introduce the device and reach the target area), technical success (the success to correctly place sutures in the target area) and clinical success (the complete resolution of the clinical issue) were analyzed. Gender, age, defect size (< 1 cm or ≥ 1 cm), defect location, type of suture, number of sutures applied were analyzed by Person-correlation coefficient.

Results In the study period 137 patients (M/F 79/58; mean age 59.8) were enrolled. There were no cases of failure in the device introduction (100%technical feasibility). Endoscopic suturing was successfully performed in 136 cases (of which 16.3% involved the OverStitch-Sx™) obtaining a technical success rate of 99.3%. No adverse events were recorded. Overall clinical success was 89%. Muscular defects were sutured in 32 patients with 100% clinical success. Endoscopic suturing was used 23 times to treat leaks/ fistulas, with a clinical success rate of 64.7% for stent fixations (n = 38), 94.4% for perforations (n = 22), 80% in postoperative leaks (n = 7). No significant correlation between location, suture pattern, sutures number, and procedure success was found, apart from < 1 cm size fistulas treated by a continuous suture, more likely to achieve clinical success during follow-up.

Conclusions Overstitch-based suturing is technically feasible regardless of treatment site and suturing method, with no cases of failure. The overall technical success rate (99.3%) and the clinical outcome success rate (89%) demonstrate the Overstitch suturing technology provides reliable suturing with clinical advantages especially with fistulas < 1 cm in size.
OP288V  EUS-GUIDED MANAGEMENT OF POST-SURGICAL INJURY USING LAMS IN PATIENTS WITH BILIARY TRACT STRICTURES

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Lumen-apposing metal stents (LAMS) are a newly available therapeutic alternative for therapy in post-surgical biliary tract strictures. Two young adult females presented with post-surgical biliary tract stricture injury. Only the first case required intraoperative hepatocjejunostomy. Both developed a cholestatic pattern. We performed an EUS-guided antegrade drainage using LAMS with no reported peri procedural complications. The total and direct bilirubin levels had exponentially decreased. Currently, the patients remain stable. When feasible, EUS-guided management of post-surgical injury using LAMS may be a novel, safe, and effective alternative for patients with iatrogenic biliary tract strictures.

OP289  ADVERSE EVENTS OF ENDOSCOPIC FULL-THICKNESS RESECTION: RESULTS FROM THE GERMAN AND DUTCH COLORECTAL EFR REGISTRY

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Aims Endoscopic full-thickness resection (eFTR) is emerging as minimally invasive alternative to surgery for complex colorectal lesions. Previous eFTR reports demonstrated favorable safety, however large studies representing a generalizable estimation of adverse events (AEs) are lacking. Our aim was to provide further insight in AEs following colorectal eFTR.

Methods This is an observational study of patients included in the German and Dutch colorectal eFTR registries between July 2015 and March 2021. All AEs were analysed.

Results In total 1894 procedures were included. Total AE rate was 11.1% (n = 211/1894; 95% confidence interval (CI):9.7–12.6%). Perforations occurred in 2.5% (n = 47/1894; 95%CI:1.8–3.3%), 27 directly and 20 delayed. Successful endoscopic closure was performed in 34.0% (13 directly and 1 delayed) and antibiotic treatment only in 4.3% (2 delayed). Appendicitis rate for appendiceal lesions was 10.0% (n = 13/130; 95%CI:5.4–16.5%) and 46.2% (6/13) could be treated conservatively. Severe AE rate requiring emergency surgery was 2.3% (n = 43/1894; 95%CI:1.7–3.0%). These concerned delayed perforations in 0.9% (n = 17/1894) and direct perforations in 0.7% (n = 14/1894). Delayed perforations occurred between day 1-10 post-eFTR (median of 2 days). In total, 58.8% (10/17) was located in the left-sided colon. Other severe AEs were appendicitis in 0.4% (n = 7/1894), stenosis in 0.1% (n = 2/1894), delayed bleeding in 0.1% (n = 1/1894), severe pain following eFTR close to dentate line 0.1% (n = 1/1894) and entrapment of grasper in clip 0.1% (n = 1/1894). No procedure-related mortality occurred.

Conclusions eFTR is a relative safe procedure with a low risk for severe AEs. Patients should be well informed on the risk of a delayed perforation and appendicitis.

OP290  RADIATION EXPOSURE DURING MODERN THERAPEUTIC EUS PROCEDURES: IMPLICATIONS FOR PATIENTS AND HEALTH-CARE WORKERS

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Aims Therapeutic EUS (t-EUS) is increasingly adopted in daily clinical practice of tertiary referral centres; however, little is known about procedure-related Radiation Exposure (RE) metrics.

Methods Kerma-Area Product (KAP [Gy-cm2]) and Fluoroscopy Time (FT [s]) were retrospectively evaluated for all consecutive t-EUS procedures performed in San Raffaele Institute between 2019-2021 through an under-couch C-arm (Ziehm Vision RFD). For EUS-guided Choledochoduodenostomies (EUS-CD) and Gastrojejunostomies (EUS-GJ) an equal number of ERCPs + biliary metal stentings and duodenal stents were included for comparison.

Results During study interval, 141 patients received t-EUS procedures (male 54.6%; median age 66 [58-73], primary diseases: 48.9% pancreatic cancer and 38.3% peripancreatic fluid collections [PFC]). EUS-CD (N = 44) were mainly performed fluoroscopically (KAP = 0 [0-0] FT = 0 [0-2]), while ERCPs required a significantly higher RE (p < 0.001). PFCs drained with Lumen Apposing stents (EUS-PFCD-LAMS, N = 26) were all performed fluoroscopically, while double-pigtail plastic stents drainage (EUS-PFCD-DPPS, N = 28) required significantly higher RE (KAP = 23 [13-45] FT = 99 [69-159]). EUS-guided gallbladder drainage (EUS-GBD, N = 6) required scarse RE (KAP = 8.5 [2.45-20.58] FT = 16 [2-60]) for coaxial DPPS placement. EUS-GJ (N = 27) required slightly higher RE than duodenal stents (KAP 43.54 [27.95–88.22] versus 29.42 [19.42-45.55], p = 0.03). EUS-guided Hepatico-gastrostomies (N = 10) had the highest RE (KAP = 81.24 [49.39–122.74] FT = 286 [218-430]).

Conclusions t-EUS procedures have significantly different RE (p < 0.000001; p-for-trend = 0.0003). EUS-CD, EUS-GBD and EUS-PFCD-LAMS can be performed with low-to-mild radioscopy. EUS-PFCD-DPPS has intermediate RE. EUS-GJ and EUS-HG involve high RE. Although this is not expected to harm patients compared to standard radioscopy-guided alternatives, endoscopists involved in some t-EUS procedures might experience a RE superior to category standards, claiming for increased awareness, personalized surveillance and additional preventive measures.
eP001 TECHNICAL ASPECTS, INDICATIONS AND OUTCOMES OF COLONOSCOPY IN THE ELDERLY. A LARGE COMPARATIVE COHORT STUDY

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Aims We aimed to investigate various aspects pertaining to colonoscopy performance in elderly patients and to provide indication-based assessment of colonoscopies’ yield and outcome.

Methods In this retrospective, large cohort study, we reviewed 35000 files of consecutive patients (50 years or above) who underwent colonoscopy procedures over a 10-year period. Based on age at presentation, patients were divided into very elderly (above 80 years; n = 3434), elderly (65-80 years; n = 13783) and young control (50-64 years; n = 17959) groups. We assessed clinical and endoscopic findings and performed indication-based analysis of outcome.

Results The most prevalent indications for colonoscopy performance were anemia (26.7% and 16.8%) and rectal bleeding (15.8% and 12.1%) for the very elderly and elderly groups, respectively. Both elderly groups had higher rates of inpatient setting (49.2% and 20.9% vs. 9.6%; P<0.0001), inadequate bowel preparation (18.5% and 13.5% vs. 9.1%; P<0.0001) and anesthesiologists’ involvement in procedural sedation (6% and 3.9% vs. 2.1%; P = 0.03), but a lesser need for high dose propofol sedation (4.5% and 5.4% vs. 7.9%; P = 0.026). We showed a linear increase in colorectal cancer (CRC), polyp and diverticulosis with age. Procedures performed for anemia investigation, rectal bleeding or weight loss were associated with higher rates of CRC and polyp detection rates, while constipation indication was associated with the lowest yield of colonoscopy investigation in the elderly groups.

Conclusions We highlighted technical aspects pertinent to colonoscopy performance in the elderly, outlined the indications with the highest yield in endoscopic evaluation, and demonstrated a linear increase of CRC and polyp detection with age.

eP002 COLONOSCOPY IN THE YOUNG: INDICATION-BASED ANALYSIS OF OUTCOME

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Aims Data on the diagnostic yield of colonoscopy in young adults with lower gastrointestinal symptoms are scarce. We aimed to evaluate the diagnostic yield of colonoscopy in young patients with an indication-based analysis of outcome.

Methods We reviewed diagnostic colonoscopies performed in young adults (50 years) over a 10-year period. We created two age-based groups of young adults (18-39 years, n = 4941) and quadragenarians (40-49 years; n = 6605), as well as a control group of average-risk patients referred for screening colonoscopies during the same period (50-60 years, n = 1453). We evaluated clinical indications for colonoscopies in the young and performed indication-based analysis of patients’ outcome.

Results Rectal bleeding (19.8% and 18.4%), iron-deficiency anemia (10.6% and 9.8%), and constipation were major indications for colonoscopy performance in quadragenarian and young patients, respectively. Overall, diverticulosis (8.7% vs. 1.3% and 3.9%; P<0.0001) and polyp detection rates (PDR) (19.6% vs. 6.1% and 12.1%; P<0.0001) were significantly higher in the control group, while inflammatory bowel disease (IBD) (10.9% and 3.6% vs. 0.1%; P<0.0001) was more prevalent in both young patients’ groups. Colorectal cancer (CRC) diagnosis rate was higher in younger groups than controls, but this was significant for quadragenarians (11.1% vs. 0.3%; P=0.001). The indication-based analysis revealed that rectal bleeding was associated with significantly increased risks of CRC, Polyps and IBD diagnosis, even in the younger patients’ group.

Conclusions We outlined diagnostic yields of colonoscopy performed in young patients for multiple indications and showed that rectal bleeding was consistently associated with CRC, increased PDR, and IBD in young patients.

eP003 COLORECTAL CANCER SCREENING: FECAL OCCULT BLOOD TEST DURING THE COVID-19 OUTBREAK

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Aims We aimed to investigate the changes on the frequency of performing FOBT test and CRC diagnosing in 2020 as comparison to the previous years.

Methods Retrospective study included all patients with positive FOBT between the years 2017 and 2020. Demographic, clinical and laboratory data were collected. Number of performed tests, positive tests and CRC diagnosis were collected. We compared the data of 2020 to the data of the years 2017-2019. The data were extracted using the MDClone platform of the largest health maintenance organization “Clalit” in Israel (about 4.7 million insured).

Results FOBTs were performed by 847,550 residents. 42,471 FOBTs were performed during 2020, in comparison to 158,147 tests during the years 2017-2019. In comparison to 2019 (44,997 tests), reduction of 5.6%, however a trend of decline in the number of tests performed was observed in the last years. Significant increase on the positivity of FOBTs in 2020 vs 2017-2019 was observed (10.5% vs 8.2%, p<0.001). Decline of the CRC among positive subjects were observed in 2020 (2% vs 2.6%).

Conclusions slight decrease on the number of the performed FOBTs in 2020 compared to the previous years, but with higher rate of positivity and lower rate of CRC.

eP004 THE IMPACT OF THE COVID-19 PANDEMIC ON COLORECTAL AND GASTRIC CANCER DIAGNOSIS, DISEASE STAGE AND MORTALITY

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Aims We aimed to investigate this change of frequency and incidence, clinical characteristics, disease stage and mortality of patients with gastric cancer (GC) or colorectal cancer (CRC) diagnosed in the first COVID-19 outbreak year 2020 versus the pre-pandemic year 2019.

Methods Data of the patients with GC or CRC in the years 2019 and 2020 were collected. Data regarding demographic, time of diagnosis, symptoms, staging and mortality were collected.
eP006  ENDOSCOPIC APPROACH VERSUS RESECTIVE SURGERY IN COMPLEX BENIGN COLONIC LESIONS

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Aims  To describe the characteristics of complex benign lesions treated either by colonoscopy or surgically, and to compare the rate of complications.
Methods  Uncentric, observational, retrospective study. We included a cohort of benign colon lesions surgically treated between 2004-2021, compared with another cohort of complex (SMSA ≥ 3) benign lesions endoscopically treated between 2018-2021. Adenocarcinoma or invasive histology and transanal surgery treated lesions are excluded.
Results  240 lesions (232 patients) were included, 136(56.6%) in the endoscopic cohort. 67.1% male, average age 68±6.66 (p < 0.05). There were 70(51.5%) SMSA 4 lesions in the endoscopic group versus 78(75.8%) in the surgical one (p < 0.001). 144(60%) lesions were located in right colon (p > 0.05). 213(88.8%) lesions were adenomas and 27(11.3%) serrated lesions (p > 0.05 between groups). There were 32(23.5%) high grade dysplasia lesions in the endoscopic group versus 57(54.8%) in the surgical one (p < 0.001). Attending to the Paris classification: 56% of the endoscopic group lesions were 0-IIa, median size 30(25-45)mm; 42.3% of the surgical group lesions were 0-I, median size 40(30-53)mm (p > 0.01). There were severe complications in 36(34.6%) patients in the surgical group versus 1 in the endoscopic group (0.7%) (p < 0.001), and 31(9.7%) deaths in the surgical group versus 1(0.7%) death in the endoscopic group (p < 0.001). The length of hospital stay median was 10.5(7-23) days in the surgical group versus 0 days in the endoscopic one (p < 0.001).
Conclusions  The endoscopic treatment of complex benign colon lesions (SMSA ≥ 3) associates lower mortality rates, severe complications and shorter length of hospital stay. We recommend establishing specific reference agendas for this type of lesions.

eP007  COLON CAPSULE ENDOSCOPY; TIME TO RAISE THE THRESHOLD FOR ONWARD REFERRAL FOR COLONOSCOPY

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DOI  10.1055/s-0042-1744860
Aims  Colon capsule endoscopy (CCE) is an accepted technique of assessing the colon. If the reader identifies one polyp >6mm or >3 polyps (any size), ESGE guidelines advise colonoscopy. Study aim was to determine if CCE criteria for onward referral for colonoscopy leads to clinically relevant outcomes.
Methods  Retrospective comparison of colonoscopy findings in patients referred following CCE. Patients were grouped according to indication, any polyp >6mm (>6mm) vs >3 polyps (>3). Significant finding on colonoscopy were defined according to ESGE guidelines (any adenoma >10mm or 5 adenomas (any size).
Results  In all, 65 patients had > 3 polyps of any size, while 52 had at least 1 polyp >6mm, and 32 fitted both criteria on CCE, and had a follow up colonoscopy.
More of the >6mm group (52 %) had significant findings on colonoscopy compared to the >3 group (34%) (p=0.0489).
Of 20 patients who had 1 polyp >6mm but less than 3 polyps overall, 45 % had significant findings, compared to 12 % of 33 patients who had > 3 polyps but all <6mm (p < 0.0107), OR 5.9, CI 1.5117 to 23.2761.
Outcomes were similar for the >6mm group and the 32 fitting both criteria (p=0.699). However those fitting both criteria had more significant findings than the >3 group (p=0.0002).
Conclusions  Any number of polyps >6mm is not a reliable indicator of significant findings on follow-on colonoscopy post CCE. Presence of polyp >6mm improves the yield, regardless of polyp numbers. The authors argue that ESGE should adopt new thresholds for referral onwards for colonoscopy reflecting this finding.

eP008  FACTORS ASSOCIATED WITH INCOMPLETE COLONOSCOPY

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Aims  Cecal intubation is one of the goals of a quality colonoscopy. However, incomplete colonoscopy is performed in 10% of cases. The objective of our study is to determine the factors associated with incomplete colonoscopy.
Methods  This is a retrospective descriptive and analytical study including all patients who underwent colonoscopy between January 2018 and August 2021. Data collection and statistical analysis were performed by JAMOVI software. Patients with chronic inflammatory bowel disease (IBD) were excluded from our study.
Incomplete colonoscopy was defined as non-visualization of the cecum.
Results  Of 1518 colonoscopies performed, 105 were incomplete (11.5%). Patients with incomplete colonoscopy tend to be older (p = 0.003), male (p = 0.026), with a history of abdominal surgery (p < 0.001), have constipation (p = 0.001), diarrhea (p = 0.002) and rectal bleeding (p = 0.006) with poor preparation (p < 0.001).
On multivariate analysis, the factors associated with incomplete colonoscopy were: a history of abdominal surgery (OR: 13.8, CI95%: 4.2-45.1, p < 0.001), poor preparation (OR: 224, CI95%: 57-884, p < 0.001), the presence of diarrhea...
In our study, and on multivariate analysis, only the CRP rate is statistically significant associated with disease activity. It suggests the place of CRP in the monitoring of Crohn’s disease in routine practice.

**eP010 THE RELATIONSHIP BETWEEN DIVERTICULAR DISEASE AND COLORECTAL POLYPS AND NEOPLASTIC LESIONS**

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**DOI** 10.1055/s-0042-1744863

**Aims** Shared by certain epidemiological and etiological features, diverticulosis and colorectal neoplastic lesions and colorectal polyps have long been associated. The aim of this study was to evaluate the association of diverticulosis with colorectal neoplastic lesions.

**Methods** In this single-center retrospective study, patients who underwent colonoscopy from January 2019 to August 2021 were included. Epidemiological, clinical, and endoscopic data were collected from colonoscopy records. Diverticulosis was defined as the presence of one or more colonic diverticula. Results During the study period, 1518 colonoscopies were performed of which 655 came back pathological (44.6%). The prevalence of patients with colonic diverticulosis, as assessed by colonoscopy, was 5% (76). The mean age of patients with colonic diverticulosis was 67.9 ± 10.5 years (43-92 years), with a male predominance of 64.5% and a sex ratio M/F of 1.8. 6.7% (n = 5) of the patients had a history of polyps and 5.3% (n = 4) a history of colorectal cancer.

The main indications for colonoscopy were constipation in 31.6% (n = 24), rectorrhagia in 28.9% (n = 22), iron deficiency anemia in 18.4% (n = 14), melena in 7.9% (n = 6) and chronic diarrhea in 6.6% (n = 5). 37.7% (n = 23) of patients had good preparation (Boston score ≥ 7). Multivariate logistic regression analysis indicated that colonic diverticulosis was statistically significantly associated with the presence of polyps (p < 0.001) and colorectal neoplastic lesions (p < 0.001), but also with colorectal neoplastic lesions.

**Conclusions** In our study, colonic diverticulosis appears to be statistically significantly associated with the presence of colorectal processes and polyps.
(3.75 ± 2.09 vs 3.76 ± 2.23 cm, p > 0.97) and grade of fibrosis (31 vs 18 F3, 13 vs 5 F2, 3 vs 1 F1; p > 0.53). After endoscopic procedures, mean follow-up period was 337 ± 459.7 days. "En bloc" resection and R0 rates were higher for traditional than Hybrid ESD (respectively, 84 % vs 16 %, p < 0.0001 and 56.2 % vs 5.5 %, p < 0.0001). No differences were found about intra-procedural complications (perforation 4.1 % vs 2.7 %, p > 0.72; bleeding 23.3 % vs 15.1 %, p > 0.35) and recurrences during follow-up, between techniques (1.4 % vs 1.4 %, p > 0.61). Hybrid ESD showed a shorter length of the procedures (94.4 ± 47.6 min vs 108.4 ± 66.3 min, p > 0.79).

Conclusions In the treatment of scar rectal lesions, hybrid and traditional ESD are both safe techniques, although traditional led to higher "en bloc" resection and R0 rates. No differences were reported in the duration between the two procedures.

eP013 ENDOSCOPIC RESECTION OF COLORECTAL POLYPS INVOLVING THE APPENDICEAL ORIFICE: A SPECIALIST APPROACH TO A UNIQUE POLYP SUBTYPE

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**DOI** 10.1055/s-0042-1744866

**Aims** To describe characteristics, endoscopic management techniques and outcomes for a series of appendiceal orifice (AO) polyps.

**Methods** This was a retrospective review of a prospectively maintained database of AO polyps managed by endoscopic mucosal resection (EMR) at two high-volume academic centres. Resection technique was not standardised across centres. Polyps were described using Jacob classification.

**Results** The case series includes 16 patients, median age of 66 years (range 43-85 years). Polyps divided equally between protruded lesions and flat elevated lesions and equally between adenomas and sessile serrated lesions. The majority of polyps (n = 16, 81.25 %) were Jacob Type 2 and the remainder were Type 0 (n = 3, 18.75 %). Piecemeal cold EMR, traditional EMR and en bloc EMR were performed in 43.75 %, 37.5 % and 18.75 % of cases respectively. Snare tip soft coagulation (STSC) was applied in n = 6 (37.5 %) of cases and clips were used in n = 6 (37.5 %). The only complication reported was intra-procedural bleeding (IPB) in one case. Of the 15 patients who had at least one site check performed, two (13.3 %) had recurrence not amenable to endoscopic resection and were referred for surgery. Another three (19.9 %) had recurrence cleared endoscopically at first site check. The total recurrence rate after first site check was 13.3 %.

**Conclusions** Overall, recurrence and complication rates were in keeping with previous series. Post-resection clip application was used sparingly. This may have been due to concerns about appendicitis and is supported by absence of any case of post-resection appendicitis. A standardised approach to endoscopic reporting, polyp characterisation and resection should be encouraged.

eP014V ENDOSCOPIC MANAGEMENT OF A COLONIC TEXTILOMA AFTER CHOLECYSTECTOMY

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**DOI** 10.1055/s-0042-1744867

80-year-old male with gallstone cholangitis underwent elective laparoscopic cholecystectomy converted to laparotomy.

Ten weeks later, due to ongoing abdominal pain, a CT scan was performed showing aerochilla and an ovoid mass of 11x7.5cm with air and high-density areas, next to the right colic flexure, suggestive of textiloma. He underwent colonoscopy in which the large textiloma (40x30cm) was totally removed, revealing a 30mm fistula orifice opening to an encapsulated collection, irrigated with gentamicine and saline solution and closed with 2 endoclips. The patient remained asymptomatic and tolerated oral intake. Two weeks later, CT showed a residual cavity without signs of infection.

eP015 UNDERWATER TECHNIQUE IMPROVES DISSECTION SPEED IN COLORECTAL ENDOSCOPIC SUBMUCOSAL DISSECTION

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**DOI** 10.1055/s-0042-1744868

**Aims** Colorectal endoscopic submucosal dissection (ESD) is a technically difficult, time-consuming and sometimes risky procedure. Tissue traction and good submucosal exposure are important factors for an effective, safe dissection. Underwater ESD (U-ESD) consists in performing an ESD in water or saline immersion, this technique provides multiple advantages, is inexpensive and easy to perform. This study evaluated underwater ESD (U-ESD) as compared to conventional ESD (C-ESD) for dissection of superficial colorectal tumours.

**Methods** We retrospectively analysed colorectal ESD performed in our centre between January 2014 and September 2021. After excluding patients with IBD, recurrent lesions and those removed by hybrid technique 148 colorectal superficial neoplasms were considered, 28 were removed by U-ESD, 120 by conventional ESD. The primary outcome was dissection speed; secondary outcomes were R0 resection rate and the rate of adverse events.

**Results**

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<td><strong>U-ESD N 28</strong></td>
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<td>Dissection speed, mm²/min, mean ± SD</td>
</tr>
<tr>
<td>R0 resection, n (%)</td>
</tr>
<tr>
<td>Adverse events (%)</td>
</tr>
<tr>
<td>Perforation</td>
</tr>
<tr>
<td>Bleeding</td>
</tr>
</tbody>
</table>

There were no differences in patients characteristic and histological type between the two groups. Lesions in U-ESD group were predominantly located in proximal colon (p = 0.0055); neoplasms in C-ESD group were mostly located...
Conclusions

Underwater ESD is a safe, effective, inexpensive and easy to perform technique for dissection of superficial colorectal neoplasm. UESD improved submucosal dissection speed compared to conventional ESD.

**eP016 Impact of the Rutgeerts Score on the Management of Operated Crohn’s Disease**

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**DOI** 10.1055/s-0042-1744869

**Aims** The aim of our study is to evaluate the efficacy of the strategy undertaken based on postoperative colonoscopy, and then to identify predictive factors of postoperative recurrence.

**Methods** This is a prospective analytic study conducted at our department, including 131 patients with operated Crohn’s disease out of a total of 651 patients with CD between January 2010 and November 2021. The Rutgeerts score was assessed in all these patients. Multiple linear logistic regression was performed, with a retained significance level of 0.05.

**Results** Mean age was 42.8 ± 5.4 years with a sex ratio (M/W) = 0.7. The main indication for surgery was stenosis in 74 patients (61 %), 60 (45 %) of patients were put immediately after surgery on Salicylates, 30 (22 %) on thiopurine, 16 (12 %) remain under no treatment. 91 (69 %) had endoscopic recurrence with a score of Rutgeerts I2 in 65 patients (71 %), Rutgeerts I3 in 6 patients (6 %) and (12 %) remain under no treatment. 91 (69 %) had endoscopic recurrence with a median of 48 months [23-74]. In multivariate analysis, salicylates and smoking were associated to endoscopic recurrence with (OR = 2.3, CI [1.15-4.2], p = 0.005) and (OR = 1.19, CI [1.13-2.19], p = 0.004) respectively.

**Conclusions** A therapeutic strategy based on the evaluation of postoperative endoscopic recurrence within one year after surgery allowed in most of our patients to control the disease by adapting the treatment according to the Rutgeerts score.

**eP017 Assessment of Submucosal Layer Quality of Colorectal EMR versus ESD Specimens - A Pilot Study**

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**DOI** 10.1055/s-0042-1744870

**Aims** Analysis of submucosal invasion depth is important to adequately predict lymph node metastasis risk after endoscopic resection of early colorectal cancer. Little is known about the quality of submucosal layer in specimens obtained by standard EMR or ESD. Here, we compare morphometric data on submucosal layer quality in routine histopathology specimens from EMR versus ESD.

**Methods** In this retrospective pilot study routine histopathology specimens were analyzed (6x EMR vs. 6x ESD – all right-sided colon). After selection to avoid possible artifacts (measurements not at the edges of the sections and preferably in areas with a longitudinal section) the EMR group comprised 18/278 (6.5 %), the ESD group 34/381 (8.9 %) of the routine tissue sections for morphometric analysis.

**Results** Sections were analyzed for homogeneity of submucosal layer thickness (i.e. variation coefficient), minimal and maximal submucosal thickness as well as for the fraction of submucosal layer thickness ≥ 1000μm relative to the total area analyzed. Comparative analysis revealed significant differences in submucosal area thickness ≥ 1000μm (EMR vs. ESD: 91.2 % ± 6.6 vs. 47.1 % ± 10.6, p = 0.018) and in the minimum submucosal thickness per tissue section analyzed (EMR vs. ESD: 933.7μm ± 125.1 vs. 319.0μm ± 123.6, p = 0.009; Figure 1). No significant differences were observed for variation coefficient or maximum submucosal thickness.

**Conclusions** In this small pilot series, specimens from EMR had a better preservation of the submucosal layer than those from ESD – possibly due to the different methods of specimen acquisition. The findings should be kept in mind when attempting to resect of lesions suspicious for submucosal invasive cancer.

**eP018 Rare Complication of Endoscopic Vacuum Therapy for Anastomotic Leak in Colorectal Surgery – A Deep Migration**

**Authors** Conceição D.1, Lemos Garcia J.1, Correia Gomes L.1, Rosa I.1, Moleiro J.1, Marques I.1, Bártolo J.2, Maciel J.2, Limbert M.2, Claro I.1

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**DOI** 10.1055/s-0042-1744871

**Aims** In colorectal oncologic surgery the number of sphincter preservation procedures has increased but also has the number of anastomotic leaks (AL). For selected patients Endoscopic vacuum therapy (EVT) is a valid alternative. The more often reported complications of EVT are bleeding, pelvic abscess, luminal stenosis, ileal or urethral fistula. We describe an unusual and potentially severe complication of EVT.

**Methods** A 29 year old male with diagnosis of low rectal adenocarcinoma underwent neoadjuvant chemoradiotherapy (CRT). Eight weeks after, the re-staging exams showed absence of complete clinical response. He was proposed for a low anterior resection. At 10th postoperative day the diagnosis of AL was made and EVT was started. After the first 2 sessions of EVT, the AL improved and he was discharged under EVT ambulatory treatment.

**Results** On the 3rd EVT session the drain bottle was empty and vacuum system was non-functioning. The manual attempt to remove the sponge led to the detachment of the drainage tube. In endoscopy the sponge had obviously migrated upwards through the leak cavity. The patient underwent emergency laparotomy to remove the sponge from between the pelvic loops of the small bowel. After 3 days he was discharged and he restarted EVT a week latter, with complete AL closure after 4 additional sessions.
Conclusions Despite some potential complications, like intraperitoneal migration, EVT is a highly effective technique, with huge positive impact on patient’s quality of life, by making the intestinal tract reconstruction possible.

eP019 DETECTING LYNCH SYNDROME IN A NATIONAL COLORECTAL CANCER SCREENING PROGRAMME

Authors Cudmore J.1,2, Kumar L.3, Cullen G.3, Horgan G.3, Aird J.1, Sheehan K.1, Leyden J.1,2

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Aims Lynch Syndrome (LS) is the most common cause of hereditary colorectal cancer (CRC) accounting for 2-4% of all CRCs. It is characterised by pathogenic variants in mismatch repair (MMR) genes. Many people are unaware of their diagnosis. Universal testing of all CRCs has been recommended to address this. The aim was to determine the proportion of CRCs tested for LS at two screening sites of the Irish national CRC screening service, BowelScreen, and to examine the outcomes of testing.

Methods CRCs diagnosed through BowelScreen from 2015 to 2020 were identified. Histopathology reports and electronic patient records were used to identify if CRCs were tested for LS with immunohistochemistry for MMR deficiency (dMMR) and if dMMR was found whether further testing to rule out LS or genetic testing to confirm LS were undertaken.

Results 207 CRCs were identified. Site A tested 100% of CRCs with IHC. Site B tested 69% of CRCs overall, however 100% in 2020 were tested.

<table>
<thead>
<tr>
<th>Year</th>
<th>Site A – n(%)</th>
<th>Site B – n(%)</th>
<th>Totals – n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>22 (100%)</td>
<td>8 (57.1%)</td>
<td>30 (83.3%)</td>
</tr>
<tr>
<td>2020</td>
<td>3 (100%)</td>
<td>5 (100%)</td>
<td>8 (100%)</td>
</tr>
</tbody>
</table>

14 (6.7%) were MMR deficient. 13 (93%) had combined loss of MLH1/PMS2. 11/13 (84.6%) were determined to be sporadic based on either BRAF V600E mutation or hypermethylation of the MLH1 promotor region. MSH6 loss was detected in 1 CRC. In total 3 patients were eligible for germline testing. 1 declined and 2 did not have follow up documented.

Conclusions Both sites had implemented universal testing for LS by 2020 in line with international guidance. A small number of patients were eligible for germline testing however only 33% were referred, highlighting the need for appropriate resources and referral pathways within our national screening programme.

eP020 IMPACT OF SEDATION TYPE ON ENDOSCOPIC DETECTION OF POLYPS AND ADENOMAS: A TERTIARY CARE CENTER EXPERIENCE

Authors Daniel F.1, Tarhini H.1, Alrazi A.1, Chusni W.1, Hosni M.1, Kerbage A.1, Soueidi A.1, Sharara A.L.1, Mourad F.1, Francis F.1, Shaib Y.1, Barada K.1

Institute 1 American University of Beirut Medical Center, Internal Medicine – Division of gastroenterology and hepatology, Beirut, Lebanon


Aims Endoscopic detection of polyps and adenomas decreases the incidence and mortality of colorectal cancer. The available data concerning the relationship between the sedation type and adenoma detection rate (ADR) or polyp detection rate (PDR) is inconclusive. The aim of our study was to evaluate the impact of conscious vs. deep (propofol) sedation on the ADR/PDR in diagnostic and screening colonoscopies.
Methods This was a retrospective cohort study. Patients aged 50–75 years old presenting for a first screening or diagnostic colonoscopy were included. Baseline demographic characteristics were collected, as well as PDR and ADR. Endoscopic withdrawal time and quality of bowel preparation rated in a binary fashion were also collected. Two multivariate logistic regression models were used to evaluate the independent predictors of endoscopic detection of polyps and adenomas.

Results 574 patients met our inclusion criteria. Mean age was 59.26 ± 7.21 with 52.4% females and an average BMI of 28.08 ± 4.89. 57.3% underwent screening colonoscopies, and deep sedation was performed in 34.8%. Only 4.7% had bad bowel preparation. PDR was 70% and ADR was 52%.

On bivariate analysis, no significant difference was shown in PDR and ADR between conscious and deep sedation groups. On multivariate analysis for PDR, age and withdrawal time were independent predictors. For ADR, age, female sex, and withdrawal time were independent predictors. Sedation type and the indication did not reach statistical significance in both models.

Conclusions In screening or diagnostic colonoscopies, the choice of sedation appears to have no impact on PDR or ADR.

ePO21 POST-ENDOSCOPIC SUBMUCOSAL DISSECTION COAGULATION SYNDROME IN COLORECTAL LESIONS. INCIDENCE AND RISK FACTORS IN EUROPEAN POPULATION

Authors De Frutos D.1, Santiago J.1, Omella IJ.1, Blanco S.1, Agudo B.1, Tormo B.1, El-Hajj L1, Martínez A.1, Calleja JL.1, 2, 3, Herreros-de-Tejada A.1, 2, 3
Institutes 1 Puerta de Hierro University Hospital, Gastroenterology and Hepatology, Endoscopy Unit, Majadahonda, Spain; 2 MD Anderson Cancer Center-Hospital, Gastroenterology and Hepatology, Madrid, Spain; 3 La Luz-Quirón Salud Hospital, Gastroenterology and Hepatology, Madrid, Spain

Aims To evaluate the accuracy of colonoscopy in localization of colorectal malignancy, predictive factors of concordance with intra-operative localization and surgical sequelae of an incorrect localization.

Methods A retrospective analysis of all colonoscopies performed from January 2019 to December 2020 with identification of malignant lesions not adequate to endoscopic treatment and that undergone subsequent resection surgery was performed. Colonoscopy accuracy was evaluated in terms of correspondence between endoscopic and intra-operative tumor localization.

Results A total of 115 colonoscopies were evaluated, mostly correspondent to male patients (63.5%) with a mean age of 68.7 years. Bowel preparation adequacy was reported in 93 colonoscopies (80.9%), with an adequate grade in 76.4%. A complete colonoscopy was accomplished in 82.9% of cases. The most common tumor location at colonoscopy was sigmoid colon (27%), followed by ascending colon (14.8%). There was concordance between endoscopic and intra-operative localization in 76 cases, which corresponds to an accuracy of 66.1%. Colonoscopy completeness (p = 0.008) and adequate bowel preparation (p = 0.023) were significantly associated with greater concordance between endoscopic and intra-operative tumor location. There was no association with age, gender, tattooing or photographic documentation. Of the 39 incorrectly localized lesions, 19 (48.7%) required changes in surgical management.

Conclusions Colonoscopy revealed reasonable accuracy in localizing malignant lesions. An incorrect tumor localization at colonoscopy results in a high rate of changes in surgical management. Colonoscopy completeness and an adequate bowel preparation were significant predictors of accuracy in localizing colorectal malignancy, underscoring the importance of colonoscopy quality for this particular indication.

ePO22V ENDOSCOPIC FULL THICKNESS RESECTION IS SAFE AND EFFECTIVE FOR THE TREATMENT OF SIGMOID SCHWANNOMAS

Authors De Siena M.1, Barbato F.1, Papparella L.G.1, Ciuffini C.1, Pecere S.1, Boiokoski I.1, Petruzzelli L.1, Costamagna G.1
Institute 1 Fondazione Policlinico Universitario A. Gemelli, IRCCS, Digestive Endoscopy Unit, Rome, Italy

A 49-year-old man was referred to our center after being diagnosed with distal sigmoid Schwannoma. We decided to perform a full-thickness resection (FTR) of the lesion. First we proceed to mark the lesion’s edges with the FTR Marking Probe (Olympus) and then we proceed to remove the lesion with the FTR System Set (OVESCO Endoscopy). No periprocedural complications were observed. The patient, after adequate observation, was discharged in good general conditions from our hospital on the same day. We believe that FTR represents a safe and effective technique for the treatment of Gastrointestinal Stromal Tumors (GISTs) of the colon.

ePO23 PREDICTIVE FACTORS AND SURGICAL IMPACT OF COLONOSCOPY ACCURACY IN LOCALIZATION OF COLORECTAL MALIGNANCY

Authors Dias E.1, Santos-Antunes J.1, Gonçalves D.1, Macedo G.1
Institute 1 Centro Hospitalar de São João, Porto, Portugal

Aims To evaluate the accuracy of colonoscopy in localization of colorectal malignancy, predictive factors of concordance with intra-operative localization and surgical sequelae of an incorrect localization.

Methods A retrospective analysis of all colonoscopies performed from January 2019 to December 2020 with identification of malignant lesions not adequate to endoscopic treatment and that undergone subsequent resection surgery was performed. Colonoscopy accuracy was evaluated in terms of correspondence between endoscopic and intra-operative tumor localization.

Results A total of 115 colonoscopies were evaluated, mostly correspondent to male patients (63.5%) with a mean age of 68.7 years. Bowel preparation adequacy was reported in 93 colonoscopies (80.9%), with an adequate grade in 76.4%. A complete colonoscopy was accomplished in 82.9% of cases. The most common tumor location at colonoscopy was sigmoid colon (27%), followed by ascending colon (14.8%). There was concordance between endoscopic and intra-operative localization in 76 cases, which corresponds to an accuracy of 66.1%. Colonoscopy completeness (p = 0.008) and adequate bowel preparation (p = 0.023) were significantly associated with greater concordance between endoscopic and intra-operative tumor location. There was no association with age, gender, tattooing or photographic documentation. Of the 39 incorrectly localized lesions, 19 (48.7%) required changes in surgical management.

Conclusions Colonoscopy revealed reasonable accuracy in localizing malignant lesions. An incorrect tumor localization at colonoscopy results in a high rate of changes in surgical management. Colonoscopy completeness and an adequate bowel preparation were significant predictors of accuracy in localizing colorectal malignancy, underscoring the importance of colonoscopy quality for this particular indication.
Conclusions

Our study validates the clinical utility of the DS at diagnosis in predicting a patients disease course including need for biologics and surgery.

Authors

Doherty J. 1, 2, Morain N.O. 1, Stack R. 1, Hara F.O. 1, Corcoran R. 4, Bailey Y. 1, McNamara D. 3, 5, 2, Kevans D. 3, 4, 2, Doherty G. 1, 2

Institutes

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Aims

The DUBLIN (Degree of Ulcerative colitis Burden of Luminal Inflammation) is a novel simple clinical score of inflammation in patients with Ulcerative Colitis (UC).

Methods

We performed a multicentre study. DS at diagnosis was calculated based on disease extent and endoscopic and histologic activity at presentation and time to commencing biologic therapy. Baseline demographics are summarised in Table 1. Median DS was significantly higher in patients requiring a colectomy compared to those colectomy free (5 versus 4, p=0.005) and in patients requiring biologic therapy compared to patients not requiring biologic agents (4 versus 3, p=0.02) (Figure 1a, b). Of patients requiring biologic therapy 28% with a DS ≤ 3 required biologic therapy compared to 64% of patients with a DS > 3. Median time to commencing biologic therapy was significantly shorter in patients with a DS > 3 than those with a DS ≤ 3 (2.8 versus 7.1 years, p = <.001). There was a weak positive correlation between both DS and faecal calprotectin [correlation coefficient 0.27, p = 0.001] and C-reactive protein [correlation coefficient 0.1, p = 0.03] and a weak negative correlation between DS and albumin [correlation coefficient -0.32, p = <0.001].

Results

268 patients had a DS at diagnosis. Baseline demographics are summarised in Table 1. Median DS was significantly higher in patients requiring a colectomy compared to those colectomy free (5 versus 4, p=0.005) and in patients requiring biologic therapy compared to patients not requiring biologic agents (4 versus 3, p=0.02) (Figure 1a, b). Of patients requiring biologic therapy 28% with a DS ≤ 3 required biologic therapy compared to 64% of patients with a DS > 3. Median time to commencing biologic therapy was significantly shorter in patients with a DS > 3 than those with a DS ≤ 3 (2.8 versus 7.1 years, p = <.001). There was a weak positive correlation between both DS and faecal calprotectin [correlation coefficient 0.27, p = 0.001] and C-reactive protein [correlation coefficient 0.1, p = 0.03] and a weak negative correlation between DS and albumin [correlation coefficient -0.32, p = <0.001].

Table 1

<table>
<thead>
<tr>
<th>Baseline Demographics</th>
<th>N =268</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median age at diagnosis (IQR)</td>
<td>38.9 (27 – 50)</td>
</tr>
<tr>
<td>Biologic therapy</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>138</td>
</tr>
<tr>
<td>Colectomies</td>
<td></td>
</tr>
<tr>
<td>SASA</td>
<td>Medium DUBLIN SCORE at diagnosis (IQR)</td>
</tr>
<tr>
<td>Immunomodulator</td>
<td>Medium DUBLIN Score at recruitment (range)</td>
</tr>
</tbody>
</table>

Conclusions

FMT is a simple, effective and safe procedure in CD infection, even in elderly patients or those with great comorbidities.

eP025 FAECAL MICROBIOTA TRANSPLANTATION IS A SIMPLE, EFFECTIVE AND SAFE TREATMENT IN THE MANAGEMENT OF C. DIFFICILE INFECTION IN DAILY CLINICAL PRACTICE

Authors

El Haja Martinez L. 1, Ferre Arcad C. 1, Vera Mendoza M.J. 1, 1, Ramos Martinez A. 1, Muñez Rubio E. 1, Fernandez-Cruz A. 1, Matallana Royo V. 1, Garcia Maseda S. 1, Sanchez Romero L. 1, Martinez Ruiz R. 1, Blanco Rey S. 1, Santos Perez E. 1, Pinto Da Costa A. 1, Calleja Panero J.L. 1

Institute

1 Hospital Universitario Puerta de Hierro, Madrid, Spain


Aims

Faecal microbiota transplantation (FMT) is a treatment supported by wide scientific evidence and proved to be very effective in the management of Clostridioides difficile (CD) infection. The objective of this study is to analyze its effectiveness and safety in a real clinical practice setting.

Methods

Retrospective, single-center and descriptive observational study in which all FMT performed between May 2016 and December 2020 were included. Technical success was defined as the successful administration of the fecal preparation in the patient’s gastrointestinal tract and clinical success the disappearance of diarrhea in the first 72 hours after the procedure with no relapse within the following 8 weeks after the therapy was started.

Results

15 FMT were performed in 13 patients. The mean age of the patients was 73 ± 19.4 years (range: 40 to 98 years); being 60 % women. The indication for FMT was recurrent colitis due to CD in 84.6 %. All FMTs were performed by colonoscopy and from related donors. With a first procedure, the TMF was effective in 11 of 13 patients (84.61 %; 95 % CI; 54.55 – 98.07). Time until resolution of symptoms was less than 48 hours in all cases. Post-transplant follow-up was 25.66 ± 17.5 months. No significant short or long-term complications were recorded at follow-up. The technical aspects of colonoscopy can be consulted in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Boston Bowel Preparation Scale</th>
<th>Good (7-8-9): 60 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair (6):</td>
<td>13 %</td>
</tr>
<tr>
<td>Poor (&lt; 6):</td>
<td>27 %</td>
</tr>
<tr>
<td>Cecal intubation rate</td>
<td>87 %</td>
</tr>
<tr>
<td>Volume of faecal suspension</td>
<td>450 ± 50 mL</td>
</tr>
<tr>
<td>Technical success</td>
<td>100 %</td>
</tr>
<tr>
<td>Loperamide</td>
<td>4 mg were administered after colonoscopy in 47 % of cases</td>
</tr>
</tbody>
</table>

Conclusions

FMT is a simple, effective and safe procedure in CD infection, even in elderly patients or those with great comorbidities.

eP026 ADENOMA MISS RATE IN BACK-TO-BACK ENDOCUFF-ASSISTED COLONOSCOPY. A SINGLE-CENTER PROSPECTIVE STUDY. PRELIMINARY RESULTS

Authors

Fragaki M. 1, Nikolaou P. 1, Arna D. 1, Psistakis A. 1, Velegkari M. 1, Voudoukis E. 1, Theodoropoulou A. 1, Vardas E. 1, Paspatis G. 1

Institute

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Aims

To conduct a back-to-back endoscopy study and to evaluate the contribution of endocuff assisted colonoscopy to the detection of missed adenomas in a mixed population of colorectal cancer (CRC) screening/surveillance and symptomatic patients. To the best of our knowledge, this is the first study on this issue.
Methods It is a prospective study conducted from March 2021 to November 2021 in a tertiary endoscopy department. Two consecutive same day, endocuff assisted, colonoscopies were performed in 93 patients.

ClinicalTrials.gov Identifier: NCT04800556

Results 93 patients were enrolled (54.8 % male; median age 60 years). All examinations were complete (100 % cecum intubation, 59.1 % ileal intubation). The indications were CRC screening (62 patients, 66.7 %), post-polypectomy surveillance (14 patients, 15.1 %) and diagnostic assessment (17 patients, 18.3 %). 49.5 % of the patients had diverticulosis. 257 polyps were overall found, 225 (87.54 %) in the first examination in 73 patients and 32 (12.46 %) in the second examination in 28 patients. Only 4 patients with no adenoma found in the first examination had one adenoma found in the second examination. The overall miss rate for adenomas was 12.65 % and 13.89 % for adenomas ≥ 10 mm.

Conclusions This back-to-back study has shown that endocuff-assisted colonoscopy has a low adenoma miss rate. These data further strengthen the existing evidence recommending the use of endocuff for decreasing the adenoma miss rate.

eP027 ACCURACY AND SAFETY OF LOWER GI EUS-GUIDED FNA/FNB: A RETROSPECTIVE SINGLE-CENTER STUDY

Authors Galanopoulos M.1, Balandrin K.1, Paterson A.2, Varghese S.1, Carroll N.1, Godfrey E.3

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Aims The aim was to analyze the performance characteristics and safety of EUS-guided fine-needle aspiration/fine needle biopsy (FNA/FNB) via the lower GI tract.

Methods Records of 100 patients who were referred for lower GI EUS at a tertiary center between 2013 and 2020 were retrospectively reviewed. We evaluated EUS FNA/FNB performance by comparing EUS tissue diagnoses with the final diagnosis (obtained via resection / long term follow-up).

Results 100 patients underwent lower GI EUS, of which 36 were intended as EUS FNA/FNB. In one patient, the lesion was not visible at EUS. In the remaining 35 patients the lesion was sampled. The most frequent location for EUS FNA/FNB was in the rectum (13/35). The majority of lesions were extraluminal (18/35) i.e. not visible endoscopically, the remainder were subepithelial. There were three mild complications (pain x 2, bleeding). The sensitivity, specificity, positive predictive value and accuracy of lower GI EUS-FNA/FNB was 93.0 %, 71.4 %, 93.0 %, 88.6 % respectively. The EUS FNA/FNB resulted in a change in the pre-EUS diagnosis in 15/35 cases.

Conclusions Lower GI EUS-FNA/FNB is an accurate and safe technique. It can be considered for any lesion requiring tissue sampling that is related to the lower GI tract.

eP028 RESULTS AND FOLLOW-UP OF RECTAL LESION SUBMUCOSAL DISSECTION(ESD) PERFORMED AT A REFERRAL HOSPITAL IN ITALY

Authors Ghersi S.1, Cappello A.1, Bassi M.1, Landi S.1, Dabizzi E.1, Cennamo V.1

Institute 1 ASL Bologna Maggiore Hospital, UOC Gastroenterologia, Bologna, Italy


Aims Our aim is to emphasize the negligible rate of local recurrence after curative ESD, and to stress the importance of planning the colonoscopy at the same referral hospital in the follow-up period.

Methods We retrospectively collected patients from 2017 to 2021 who had been referred for ESD removal of rectal lesions found during colonoscopies performed by other centers. From the endoscopic removal attempt results, we analysed the recurrence rate and the incidence of other colonic lesions in the follow-up of the subgroup of curative-ESD patients. A 6-month rectosigmoidoscopy was planned by the referral hospital, while the organization of the 1-year follow-up colonoscopy appointment was the responsibility of the general practitioner.

Results 69 inpatients(mean74years;55 men) with median 35mm lesions, underwent endoscopic removal attempts that were completed in 65/69 patients(94 %). In 60/65(92 %) cases en-bloc resection was achieved. Post-ESD bleeding and perforation occurred in 2/69(2.8 %) and 4/69(5.7 %) cases respectively. Curative resection was achieved in 58/60(97 %) cases with histological reports of 5(8 %) adenocarcinoma, 31(51 %) adenomatous high-grade dysplasia and 24(40 %) adenomatous low-grade dysplasia. Mean endoscopic follow-up was 456 days. 58/58(100 %) 6-month follow-up rectosigmoidoscopy did not show any recurrence. Only 25/50(50 %) patients underwent 1-year colonoscopy at the referral hospital. In 25/25(100 %) no local recurrence was found, while in 9/25(36 %) patients other colonic adenomas(mean10mm;1.2/person) were removed.

Conclusions Curative-rectal-ESD has a negligible recurrence rate while the incidence of other colonic lesions is high in follow-up. Based on these results, colonoscopy surveillance in curative-rectal-ESD patients is crucial and we suggest it be planned as the first endoscopic follow-up at the referral hospital 1-year after ESD.

eP029 USEFULNESS OF CONTRAST-ENHANCED ENDOSCOPIC ULTRASOUND (CH-EUS) TO GUIDE THE TREATMENT CHOICE IN SUPERFICIAL RECTAL LESIONS: A CASE SERIES

Authors Gibino G.1, Sbrancia M.1, Binda C.1, Coluccio C.1, Saragoni L.2, Fabbri C.1

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Aims Large rectal lesions can conceal submucosal invasion and cancer nodules. Despite the increasing number of high-definition endoscopes in the Western countries and the importance of an accurate morphological evaluation, a complete assessment in this setting can be challenging. Endoscopic ultrasound (EUS) plays an established role in the locoregional staging of rectum cancer although with a tendency to an over-estimation of the loco-regional (T)-staging. However, there are still few data on the possible use of contrast-enhanced endoscopic ultrasound (CH-EUS), especially if this ancillary technique may increase the accuracy for predicting invasive nodules among large rectal lesions.

Methods We performed a case series of consecutive large (≥ 20 millimeters) superficial rectal lesions assessed by CH-EUS.

Results From January 2020 to December 2021 we evaluated eight cases with high-definition endoscopy, characterized by focal areas suggestive for T type according to Kudo Classification. All lesions corresponded to sessile or Granular Lateral Spreading Tumors (LST-G), mixed type or not granular (LST-NG) according to Paris Classification, with size ranging from 30 to 180 mm.

We performed EUS using high generation contrast agent, Sonovue®. Six cases, corresponding to invasive pattern at CH-EUS, were treated with surgery, confirmed as pT2 at final staging. Two cases, with non-invasive pattern at CH-EUS, underwent to curative endoscopic submucosal dissection (ESD) corresponding to pTa1 tumors.
The aim of our study was to analyse the feasibility and safety of Overstitch suture and to evaluate the occurrence of pre-neoplastic and neoplastic lesions of the gastrointestinal tract.

Methods
First of all, we build an overspeed percentage calculation system based on Hasche algorithm. Based on this system, we prospectively collected 868 colonoscopy videos, along with corresponding patient demographic information, colonoscopy reports, and pathology reports. All polyps found during the collection of colonoscopy videos were biopsied or removed.

Results
In 868 videos, the percentage of withdrawal overspeed was negatively correlated with adenoma detection rate. The rate of overspeed was 2%-37.5%, the range of overspeed was 5%, the rate of overspeed were 7%, 12%, 17%, 22%, 37.5% and the adenoma detection rate were 0.272, 0.247, 0.208, 0.229, 0.1667 respectively, the correlation coefficient between the percentage of overspeed and the adenoma detection rate was -0.9036.

Conclusions
Based on the clinical study of this project, we propose a more accurate method to monitor the percentage of withdrawal overspeed. We observed that the lower the percentage of overspeed withdrawal, the higher the adenoma detection rate.

Conclusions
Endoscopic suture system is feasible, safe and a useful tool to close large or deep wall defect after ESD/eFTR, avoiding unnecessary hospitalization.

eP032
RISK OF ADVANCED HISTOLOGY IN DIMINUTIVE COLORECTAL POLYPS

Authors
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Institute
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Aims
The prevalence of advanced histology in diminutive colorectal polyps is a key factor to consider before adopting some polyp management paradigms. We aimed to determine the prevalence and risk factors of advanced histology in diminutive polyps.

Methods
We performed analysis of a prospectively maintained database. The colonoscopies included were performed in patients with moderate risk of developing colorectal cancer. Polyp size, morphology and location in the colon were noted. A pathology examination was performed after polypectomy.

Conclusions
A total of 116 diminutive colorectal polyps were collected in 63 patients with a mean age of 56.24±15.12 and a sex ratio of 4.25. Polyps were mostly detected in the sigmoid colon (26.7%) and the rectum (25%). There were 81 conventional adenomas (69.8%) and 32 hyperplastic polyps. Advanced histology was identified in 16.3% of cases with presence of high grade dysplasia and villous elements in 4.3% and 12% respectively. In univariate analysis age of the patient (p = 0.01), history of hypertension (p = 0.03), history of dyslipidemia (p = 0.03), excessive alcohol intake (p = 0.01), size of detected polyp (p = 0.03) and NICE type2 (p = 0.01) were statistically correlated with advanced
Adenomas. In multivariate analysis, only age and NICE type2 were independent factors associated with advanced histology. 

**Conclusions** we observed a high risk of advanced histology in diminutive colorectal polyps in a group of patients which requires vigilant management to prevent colorectal cancer.

**eP033** **CONTRIBUTION OF DIGESTIVE ENDOSCOPY IN CASE OF DIGESTIVE THICKENING ON IMAGING**

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**DOI** 10.1055/s-0042-1744886

**Aims** The recent advent of new imaging techniques has certainly changed the management of Digestive Tract pathologies. The aim of our study was to assess the benefit of digestive endoscopy in patients with digestive thickening on imaging.

**Methods** This is a retrospective study including all patients who have had an upper digestive endoscopy or ileocolonscopy, as part of the exploration of digestive thickening discovered on imaging, during the period between January 2018 and October 2021.

**Results** A total of 4,046 endoscopic examinations were performed, of which 2.52% (n = 102) met the inclusion criteria. These were 27 upper digestive endoscopies (26.5%) and 75 ileocolonoscopies (73.5%). The mean age of the patients was 57.72 years, with a sex ratio M / F = 1.17. Digestive thickening was discovered incidentally in 20.6% of cases. It was localized in the colon (57.8%), the upper digestive tract (15.8%), the ileon (18.6%), the rectum (2.9%) or the esophagus (4.9%). It was irregular (34.3%). Endoscopic examination was normal in 33.3%. A tumor process was objectified in 18.6% of cases, of recto-colic localization in the most of cases. Other endoscopic abnormalities observed: mucosal elevation (3.9%), large folds (5.9%), mucosal congestion (32.4%), ulcerations (10.8%), diverticula (4.9%), angiodysplasia (2%), polyps (14.7%). A suspicious gastric ulcer was noted in 2%. The irregularity of the thickening was significantly associated with the presence of a tumor process on endoscopy (p<0.001).

**Conclusions** Digestive endoscopy is primordial in the case of digestive thickening on imaging, so as not to miss lesions that may be potentially malignant.

**eP034** **HIGH INCIDENCE OF SERRATED LESIONS IN A FIT POSITIVE POPULATION**

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**DOI** 10.1055/s-0042-1744887

**Aims** To determine the incidence of serrated lesions in a non-academic hospital with special interest in serrated neoplasia.

**Methods** Retrospective analysis of a prospectively collected FIT positive screening cohort from August 2018 until November 2021 were studied to assess serrated lesions and serrated polyposis syndrome.

**Results** We performed 398 screening colonoscopies after a positive FIT in which we found 606 SSL with at least one SSL in 191 patients (47.99%). Of these, 37 were advanced SSL (>10mm or with dysplasia) in 20 patients (5.03%) and 50 clinically relevant SSL (advanced SSL or >5mm and proximal to splenic flexure) in 28 patients (7.04%). 7 patients (1.76%) were diagnosed or suspected of serrated polyposis syndrome. Of four of them met criterion I of the 2019 WHO classification and 3 met criterion II.

**Conclusions** In a center with special interest in serrated neoplasia, the incidence of serrated lesions (15.1-19.5%), advanced SSL (1.3-1.6%), clinically relevant SSL (2.1-7.9%) and SPS (0.03-0.5%), is greater than the incidence published until now.

**Table 1**

<table>
<thead>
<tr>
<th>Size</th>
<th>Less than 40mm n=198 (%)</th>
<th>40mm in size n=206 (%)</th>
<th>Non Rectal lesion n=187 (%)</th>
<th>Rectal lesion n=217 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covert cancers</td>
<td>6 (3.0)</td>
<td>12 (5.8)</td>
<td>4 (2.1)</td>
<td>14 (6.5)*</td>
</tr>
<tr>
<td>All cancers</td>
<td>18 (9.1)</td>
<td>13 (6.3)</td>
<td>13 (7.0)</td>
<td>18 (8.3)</td>
</tr>
</tbody>
</table>

* Significant p-value of <0.05

**Conclusions** Our data demonstrates the real-world risk of cancer in endoscopically-resected rectal polyps (8.3%) with covert cancers in 6.5% even after expert assessment. This supports en-bloc excision of these polyps. Size and non-rectal location are not significant predictors of cancer after expert assessment.

**eP036** **EVALUATING OF CHANGES IN COLONOSCOPY QUALITY INDICATORS SUBSEQUENT TO BOWEL PREPARATION ADEQUACY**

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**DOI** 10.1055/s-0042-1744889

**Aims** Insufficient bowel preparation (BP) is known to cause a decrease in polyp detection rate (PDR) and adenoma detection rate (ADR). This study aimed to evaluate a statistically significant relationship between BP, rated on the Boston Bowel Preparation Scale (BBPS), with the ADR and the PDR. Primary endpoint was the ADR depending on BP adequacy.
Methods Random sample of 2000 patients (848 men and 1152 women between 18 and 92 years old; mean age, 54.5 years) who underwent successful total colorectal surgery between January 2011 and October 2021 were included in this retrospective, single-center study. 56.1% of patients were ≥50 years old. Exclusion criteria were age <18 years, active inflammatory bowel disease, stenosis and non-total colonic obstruction. Demographic data, BBPS scores, ADR and PDR were evaluated. Data were analyzed using Spearman’s rank, Chi-sq and Kruskal-Wallis test by SPSS.

Results There was a significant direct correlation between the BBPS score and ADR (Spearman’s rank 0.856, P < 0.001). The ADR for the BBPS scores 8–9 was 46.3%, vs. 32.1% for the BBPS scores 6–7 and 21.8% for the BBPS scores 4–5 (P = 0.002), and the PDR found at 42.3%, 34.1%, and 26.6%, respectively (P = 0.004). Using split BP gave excellent cleansing (BBPS scores 8–9) in 79% vs. 29% in the case of day-before BP, and intermediate-quality cleansing (BBPS scores 6–7) in 20% vs. 52%, respectively (P < 0.001).

Conclusions Both ADR and PDR were significantly higher when bowel preparation was excellent rather than intermediate. Split bowel preparation remain the backbone for high ADR levels.

eP037 TRANRECTAL ENDOSCOPIC DRAINAGE IN PATIENTS WITH ANASTOMOTIC LEAKS FOLLOWING RECTAL CANCER RESECTION
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Institute ¹ Collegium Medicum Nicolaus Copernicus University, Department of General, Gastroenterological and Oncological Surgery, Toruń, Poland

Aims We assessed the efficacy and safety of transrectal endoscopic drainage by vacuum therapy in patients with intestinal anastomotic leakage after surgical treatment of middle and distal rectal tumors.

Methods We conducted a prospective analysis of treatment outcomes among patients undergoing surgery for middle and distal rectal tumors at the Department of General, Gastroenterological and Oncological Surgery of the Ludwik Rydygier Collegium Medicum in Bydgoszcz and Nicolaus Copernicus University in Toruń from 2016 to 2019.

Results Seventy-nine patients with middle and distal rectal tumors underwent laparoscopic resection. Intestinal anastomotic leak was identified in 18 (22.79%) patients (all men, mean age 61.39 [43–86] years) during the postoperative period. Primary protective ileostomy was performed in 8/18 (44.44%) patients. All 18 patients were treated with intraabdominal vacuum therapy via transrectal endoscopic drainage (success rate: 94.44%, 17/18). The mean time from surgery to the diagnosis of leakage and initiation of endoscopic treatment was 16 (3–728) days. The mean number of endoscopic procedures per patient was 6 (1–11). The mean duration of endoscopic treatment was 22 (4–43) days. Complications of endotherapy occurred in 2/18 (11.11%) patients treated endoscopically for bleeding from the abscess cavity. Moreover, 5/18 (27.78%) patients required ileostomy during the endoscopic treatment. The mean follow-up period was 368 (118–724) days. Successful long-term outcome of endoscopic treatment was found in 15/18 (83.33%) patients.

Conclusions Endoscopic rectal drainage using vacuum-assisted therapy is an effective and safe minimally invasive treatment in patients with intestinal anastomotic leaks following resection procedures within the middle and distal rectum.

eP038 ACCURACY OF TEXTURE AND COLOUR ENHANCEMENT (TXI), A NOVEL IMAGE ENHANCEMENT MODALITY, IN PREDICTING RESIDUAL NEOPLASIA IN COLONIC ENDOSCOPIC RESECTION SCARS
Authors John S.¹, Mickenbecker M.², Lyon A.²
Institutes ¹ Gold Coast University Hospital, Digestive Health, Southport, Australia; ² Gold Coast University Hospital, Digestive health, Southport, Australia

Aims Residual neoplasia after complete resection of colon polyps has been reported in 10–32% and most can be treated endoscopically. TXI is a novel retinex-based image enhancement technology that changes texture, brightness, and color of white light to increase the detection of subtle lesions. Narrow band imaging (NBI) has previously been reported to be accurate in predicting the presence of residual polyps. We assessed the accuracy of TXI in this regard.

Methods TXI and NBI were used to assess post resection colonic scars in a prospective cohort in a single centre over 6 months. Pictures and levels of confidence of prediction (high vs low) were recorded. Biopsy of the healthy scar or resection of any residual neoplasia discovered was performed. Accuracy of prediction was compared to histopathology results.

Results 49 post resection colonic scars were assessed in 32 patients. TXI accurately predicted the presence or absence of residual neoplasia in 47 (Sensitivity 100%, specificity 95%, Negative Predictive Value 100%). High confidence prediction was possible in 91%. 8 residual neoplasia detected by TXI were resected at the same procedure and 6 were confirmed to be residual adenomas.

Conclusions TXI, a novel imaging modality, is highly sensitive and accurate in detecting residual neoplasia in colonic scars. This enables real time detection and management of any residual polyp and may also reduce pathology costs. Further studies are required to establish its benefits.

eP039 RARE CLINICAL CASE OF RECTAL LOCALIZATION OF ACUTE MYELOID LEUKEMIA
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Institute ¹ University Hospital Center MED VI Oujda, Hepato gastroenterology department /Digestive disease Research Laboratory, Oujda, Morocco

Aims An exceptional case of rectal leukemia.

Methods We are reporting a rare clinical case of 20-year-old man with rectal involvement of acute myeloid leukemia. A 20-year-old patient, diagnosed with acute myeloid leukemia was put on chemotherapy since 2 years, Abdominal control CT scan found a suspicious thickening of rectum measuring 11 mm. There were no gastro intestinal symptoms.

Results Colonoscopy objective stenosis ulcerative process measuring 3 cm, bleeding easily on contact and extending from the anal canal. The pathologist reported malignant tumor proliferation of lymphoid cells. Stomal cells had atypical nucleus and arranged in diffuse sheet. Immunohistochemical analysis found tumour cells expression of CD45 (+), CD34 (+) and CD117 (+). The Ki67 index was 60%. Rectal involvement of acute myeloid leukemia was diagnosed. Multidisciplinary therapeutic approach was to pursue Chemotherapy. The patient had severe sepsis and died 2 months later.
Conclusions Gastrointestinal manifestations of leukemia occur in 25% of cases; they can touch the digestive tract from the esophagus to the rectum.

eP040 OUTCOMES AFTER COLORECTAL ESD LEARNING WITH IN-ROOM “GUEST-EXPERT”. FEASIBILITY AND RESULTS OF A DOUBLE-OPERATOR ESD REGIONAL CENTRUM IN SOUTHEAST SWEDEN

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Institutes 1 Linköping University Hospital, Department of Gastroenterology and Hepatology, Linköping, Sweden; 2 NTT Medical Center Tokyo, Tokyo, Japan; 3 Sahlgrenska University Hospital, Internal Medicine and Gastroenterology Department, Gothenburg, Sweden; 4 National Hospital Organization Osaka National Hospital, Department of Gastroenterology and Hepatology, Osaka, Japan

Aims Colorectal ESD is a technically demanding procedure with a steep learning curve. Aim of this study is to evaluate the feasibility and outcomes of colorectal ESD after learning with a “guest-expert” in the room.

Methods Two experienced endoscopists started practicing colorectal ESD after observing colorectal ESDs, attending ESD workshops and practical training on animal models. Between February-2018 and April-2019, three ESD experts, with experience of more than 200 colorectal ESD each, were invited from other hospitals for 13 procedures in total during the initiation of ESD practice. The following ESD procedures, done independently by two endoscopists, were evaluated.

Results A total of 87 colorectal ESD procedures were completed from April-2019 until November-2021. 82% (n = 71) were in rectum, and 18% (n = 16) in other parts of the colon. 46% (n = 40) were done with both operators simultaneously. Mean polyp size was 47.6 ± 18.6 mm (20.6 ± 15.8 cm²). 79% (n = 69) were done with both operators simultaneously. 46% (n = 40) were done with both operators simultaneously. Mean polyp size was 47.6 ± 18.6 mm (20.6 ± 15.8 cm²). 79% (n = 69) were done with both operators simultaneously. Mean polyp size was 47.6 ± 18.6 mm (20.6 ± 15.8 cm²).

Conclusions Colorectal ESD learning with in-room “guest-expert” may be a feasible ESD learning method for a double-operator ESD regional centrum.

eP041V COLD ENDOSCOPIC MUCOSAL RESECTION OF A LARGE LATERALLY SPREADING LESION TUBULOVILLOUS ADENOMA WITH LONG-TERM FOLLOW-UP

Author Kheir A.O.1
Institute T Cleveland Clinic Abu Dhabi, Digestive Disease Institute, Abu Dhabi, United Arab Emirates

A 64-year-old male with 46 mm, Paris IIa, granular laterally spreading lesion at the mid-rectum. NBI showed high-confidence NICE classification type 2. A prophylactic broad-spectrum antibiotic was given. We performed piecemeal cold endoscopic mucosal resection (CEMR) technique using 10-mm size dedicated cold snare. No clips were needed. Regular diet was resumed immediately and home discharge 2-hours post CEMR. No post-discharge complications. Histology confirmed tubulovillous adenoma. Post-CEMR surveillance was performed after 18-months due to the COVID pandemic. The CEMR scar showed normal regenerative mucosa without endoscopic evidence or histologic evidence of residual neoplasia. CEMR is effective long-term for selected large flat adenomas.

eP042 TATTOOING IN THE COLON – IS THE DESIGN INFLUENCED BY OUTCOME?

Authors Kho C.H.1, McRobbie H.2, Patel R.3
Institutes 1 Lakes DHB, General Surgery, Rotorua, New Zealand; 2 Lakes DHB, Lifestyle Medicine, Rotorua, New Zealand; 3 Lakes DHB, Gastroenterology, Rotorua, New Zealand

Aims Tattoo, using sterile carbon particle suspension, should be used to demarcate any lesion that may require localisation at future endoscopic or surgical procedures. There remains heterogeneity in the approach despite specific guidelines on lesion marking standards. We hypothesised that approach to tattooing is influenced by lesion management (endoscopic versus surgical).

Methods Retrospective review of all colorectal lesions undergoing tattoo over the last 12 months at Lakes DHB, a regional centre in New Zealand. Data was collected using Provation endoscopic software and utilized electronic patient records. Characteristics of lesion marking were noted from endoscopy reports. Analyses were performed using chi-square and student t-test.

Results 123 patients underwent lesion marking with tattoo in the colon; Median age 68; IQR 61-73; Female 49 (39.8 %), Maori Ethnicity 21 (17.1 %). Location: Left 92 (74.8 %) versus Right colon 31 (25.2 %). Mean size of lesion 24.8 mm. Malignant histology 39 (31.8 %).

Conclusions Cold snare resection was performed in 51% (n = 62) of lesions. Peri-procedural perforation occurred in 2% (n = 2). All lesions were resected using cold snare. No polyp relapse was observed in following controls until November-2022. No post-discharge complications. Histology confirmed normal regenerative mucosa without endoscopic evidence or histologic evidence of residual neoplasia. CEMR is effective long-term for selected large flat adenomas.

Table 1 Lesion marking characteristics in endoscopically and surgically resected lesions.
eP043 MODIFIED UNDERWATER ENDOSCOPIC MUCOSAL RESECTION FOR INTERMEDIATE-SIZED SESSILE COLORECTAL POLYPS

**Authors** Kim H.-S.1, Kim D.H.1, Park S.-Y.1, You H.S.1, Cho S.Y.1, Lee Y.H.1

**Institute** 1 Chonnam National University Hospital, Gwangju, Korea, Republic of

**Aims** Underwater endoscopic mucosal resection (UEMR) is effective for treating intermediate-sized colorectal polyps. However, it is sometimes difficult to obtain visibility in underwater conditions.

**Methods** This prospective, observational, single center study included consecutive patients with intermediate-sized (10–20 mm) sessile colorectal polyps. Modified UEMR method was used to initially snare the lesion without injection or water infusion. Thereafter, water was infused until the lesion was submerged, then it was resected using electrocautery. We also evaluated the rates of complete resection and procedure-related complications.

**Results** Forty-two patients with 47 polyps were enrolled in the study. The median procedure time and fluid infusion were 71 s (42–607) and 50 mL (30–130), respectively. The rates of R0 resection and en-bloc resection were 80.9% and 97.9%, respectively, with 100% technical success. R0 resection was observed in 42.9% of polyps sized ≥15 mm and 87.5% sized <15 mm (p<0.01). Muscle entrapment was found in 71.4% of patients with polyps sized ≥15 mm and 10% <15 mm (p<0.01). Immediate bleeding occurred in 12.8% of cases and was controlled using a snare tip or coagrasper. Snare-tip ablation and coagrasper ablation were performed in 27.7% and 6.4% of patients, respectively. No delayed bleeding, perforation, or any other complications were reported.

**Conclusions** Modified UEMR can be used in cases in which securing visibility or obtaining the existing UEMR is challenging. Careful treatment is required when removing polyps >15 mm in size.

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eP044V ENDOSCOPIC FULL-THICKNESS RESECTION OF A SESSILE SERRATED ADENOMA EXTENDING INSIDE THE APPENDICEAL ORIFICE

**Author** Lajin M.1

**Institute** 1 SHARP HealthCare, Gastroenterology, San Diego, United States

**DOl** 10.1055/s-0042-1744897

A 63-year-old male was found to have a sessile serrated adenoma extending inside the appendix. After discussing the different options, he decided to proceed with endoscopic full-thickness resection.
without much traction, atypical of colonic polyps. Histology findings showed granulation tissue. In this case report, we demonstrated that granulation tissue associated with healed diverticular perforation mimic colonic polyps on real-time AI-aided colonoscopy. Potentially, tattoos may be placed to identify sites of recent perforation, allowing for more targeted parenchymal-sparing resection should complicated diverticulitis recur at the same sites.

### Table 1

<table>
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<tbody>
<tr>
<td>ESD specimen surface</td>
<td>1787</td>
<td>1281</td>
<td>2532</td>
<td>1155</td>
</tr>
<tr>
<td>(mm)</td>
<td>50.4</td>
<td>41.8</td>
<td>63.1</td>
<td>38.5</td>
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<tr>
<td>ESD specimen great axis</td>
<td>20.2</td>
<td>8.5</td>
<td>16.6</td>
<td>9.2</td>
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<td>(mm)</td>
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<tr>
<td>ESD specimen histopathology</td>
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<tr>
<td>- LGD (44)</td>
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<td>- HGD (19)</td>
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<td>- Adenocarcinoma</td>
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<td>- Tis (13)</td>
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<td>- sm1 (4)</td>
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<td>- NET (2)</td>
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<tr>
<td>Resection</td>
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<tr>
<td>- en-bloc (96.7 %, overall)</td>
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<tr>
<td>- R0 (84.4 %, overall)</td>
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<tr>
<td>- Curative (80 %, overall)</td>
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<tr>
<td>Complications</td>
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<tr>
<td>- Bleeding (3 %)</td>
<td></td>
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<tr>
<td>- Perforation (2 %)</td>
<td></td>
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<tr>
<td>- Stenosis (1 %)</td>
<td></td>
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</tbody>
</table>

### Fig. 1

Conclusions Working in pairs combined with on-demand direct expert supervision allows effective implementation of rectal ESD in a non-academic referral center with safe gradual transition to autonomy.

**eP046V** AN UNUSUAL PHENOMENON – ARTIFICIAL INTELLIGENCE (AI)-AIDED DETECTION OF A ‘POLYP’ ARISING FROM A DIVERTICULUM

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**DOI** 10.1055/s-0042-1744899

Real-time AI-aided colonoscopy was performed for a patient who had Hinchey 1b acute sigmoid diverticulitis 3 months prior. At the sigmoid colon, a polyp-resembling lesion, closely associated with a diverticulum was identified. This was easily pinched off using biopsy forceps without much traction, atypical of colonic polyps. Histology findings showed granulation tissue.

In this case report, we demonstrated that granulation tissue associated with healed diverticular perforation mimic colonic polyps on real-time AI-aided colonoscopy. Potentially, tattoos may be placed to identify sites of recent perforation, allowing for more targeted parenchymal-sparing resection should complicated diverticulitis recur at the same sites.

**eP047** ENDOSCOPIC MANAGEMENT OF LATERALLY SPREADING LESIONS OF THE RECTUM INCLUDING THE ANO-RECTAL JUNCTION: A SINGLE CENTRE EXPERIENCE

**Authors** McCarthy E.M.1, Leyden J.1, 2, King S.1, Lahiff C.1, 2

**Institutes** 1 Mater Misericordiae University Hospital, Gastrointestinal Unit, Dublin, Ireland; 2 University College Dublin, School of Medicine, Dublin, Ireland

**DOI** 10.1055/s-0042-1744900

**Aims** Endoscopic mucosal resection (EMR) is an established therapy for removing laterally spreading lesions of the rectum. The optimal therapy for removing anorectal junction LSLs (ARJ-LSLs) is unknown but use of EMR is supported by prospective observational data. Our aim was to complete a single centre review of clinical outcomes for rectal and ARJ-LSLs managed endoscopically over a four-year period

**Methods** Patients undergoing EMR for rectal and ARJ-LSLs > 10mm were included. Data were obtained using electronic records. Safety was evaluated by the frequencies of bleeding, deep mural injury and delayed perforation. Long-term efficacy was evaluated by the absence of recurrence at follow-up colonoscopy

**Results** 56 rectal LSLs > 10mm (including 15 ARJ-LSLs) were resected over 51 months. Mean age 65.1 years, median polyp size 32mm (range 10-80). En-bloc resection: 18 % (n = 10). Histology: adenoma (n = 54), neuroendocrine tumour (n = 1) and invasive cancer (n = 1). High grade dysplasia was present in 21 ade-
noma’s (37%). Overall complication rate: 9% (n = 5). 45/56 (80%) have undergone at least one site check. Recurrence occurred in 12.5%, 9%, 1.8% and 0 at SC1-SC4, respectively. Both recurrences were removed by piecemeal EMR and were SMSA level 4. No en-bloc resections occurred. SMSA level 4 was associated with higher risk of recurrence than level 1-3 (p < 0.05). Recurrence and complication rates were similar for rectal LSLS and ARJ-LSLS, as were en-bloc resection rates (18% vs. 26%).

Conclusions: Endoscopic resection of rectal LSLS, including ARJ lesions is safe and effective and should be guided by SMSA score. En bloc resection should be favoured where possible.

### eP048 INCIDENCE OF EARLY ONSET COLORECTAL CANCER AND ADVANCED NEOPLASIA DOES NOT HAVE MALE PREDOMINANCE – RETROSPECTIVE OBSERVATIONAL STUDY

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**DOI** 10.1055/s-0042-1744901

**Aims** To assess the real-life incidence of early onset colorectal cancer and advanced neoplasias in a single non-university endoscopic center.

**Methods** We retrospectively assessed the incidence of advanced neoplasias and colorectal cancer in population under 50 years of age compared to older population. We collected the data from all colonoscopic examinations performed in non-university hospital from January 2012 to the end of June 2021.

**Results** In study period, 18257 colonoscopic examinations were done in total, 14728 in population 50 years and older and 3529 in population under 50 years of age. In our study there were 29 patients with early onset colorectal cancer (5.12% from 557 total) and 106 patients with early onset advanced neoplasias (4.47% from 2371 total). The incidence of early onset colorectal cancer and advanced neoplasias in younger group did not significantly differ between the sexes (see Table 1). Positive family history of colorectal cancer was not significantly associated with risk of early onset colorectal cancer (p = 0.316) or early onset advanced neoplasia (p = 0.323) in our study.

**Conclusions** Early onset colorectal cancer represented 5.21% of all colorectal cancers diagnosed in the study period. The incidence of colorectal cancer and advanced neoplasias in population under 50 years of age was 0.82% and 3.00% compared to 3.59% and 15.38% in older population. In contrast to older population, the incidence of early onset colorectal cancer and advanced neoplasias did not differ between the sexes. Positive family history of colorectal cancer was not significantly associated with risk of early onset colorectal cancer or advanced neoplasias.

### Table 1

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Men</th>
<th>Women</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorectal cancer ≥ 50</td>
<td>528/14728 (3.59%)</td>
<td>331/7942 (4.17%)</td>
<td>197/6786 (2.0%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Advanced neoplasias ≥ 50</td>
<td>2265/14728 (15.38%)</td>
<td>1477/7942 (18.60%)</td>
<td>788/6786 (11.61%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Colorectal cancer &lt; 50</td>
<td>29/3529 (0.82%)</td>
<td>14/1772 (0.79%)</td>
<td>15/1757 (0.85%)</td>
<td>0.834</td>
</tr>
<tr>
<td>Advanced neoplasias &lt; 50</td>
<td>106/3529 (3.00%)</td>
<td>58/1772 (3.27%)</td>
<td>48/1757 (2.73%)</td>
<td>0.361</td>
</tr>
</tbody>
</table>

**eP049 ENDOSCOPIC RESECTION OF COMPLEX SUPERFICIAL COLORECTAL LESIONS IN A LOW VOLUME CENTER: TECHNIQUES, SAFETY AND EFFECTIVENESS**

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**DOI** 10.1055/s-0042-1744902

**Aims** The aim of our study was to evaluate the endoscopic management of complex colorectal lesions in a low volume center. We assessed the safety and effectiveness of each treatment modality.

**Methods** Observational, retrospective study. Complex colorectal lesions were included: SMSA score 3-4, non-lifting lesions, peridiverticular or appendiceal lesions, risk of submucosal invasion. Lesion characteristics, type of resection and adverse events (AE) were collected. The need for surgery due to non-curative resection or AE was studied.

**Results** We included 121 lesions (March 2017–December 2021): 103 were resected using endoscopic mucosal resection (EMR), 8 by endoscopic full-thickness resection (EFR) and 10 by endoscopic submucosal dissection (ESD).

**EMR group** the median lesion size was 30 mm (IQR 20-35). 93% were Lateral Spreading Tumors. Histological analysis revealed adenomatous lesions in 79%; adenocarcinoma in 15%. Two patients had deep submucosal invasion (1.9%) and perforation requiring surgery appeared in 1.9%.

**EFR group** the median lesion size was 15 mm (IQR 10-30). The most frequent histological findings were high-grade dysplasia (38%) and intramuscular adenocarcinoma (25%). AE requiring surgery occurred in one case (12%, perforation).

**ESD group** the median lesion size was 41mm (IQR 30-55). The histology was high-grade dysplasia in 40%; adenocarcinoma with superficial submucosal invasion in 20%; 20% had deep submucosal invasion requiring further surgery. No AE requiring surgery were observed. Overall, 5% of patients required surgery due to non-curative resection or AE.

**Conclusions** The vast majority of difficult lesions were effectively resected by EMR. Only 5% of lesions required surgery due to non-curative resection or AE.

### eP050V DIRECT ANORECTAL INTUBATION DURING COLONOSCOPY – A LOGICAL NEW PARADIGM

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**DOI** 10.1055/s-0042-1744903

Traditionally, endoscopists are trained to introduce the colonoscope blindly through the anus into the rectum and then start the procedure. This practice originated during the era of fiberoptic endoscopy but has remained standard despite availability of wide-angle viewing video colonoscopy techniques, which practically allow for a better inspection of this area. Indeed, esophagogastroduodenoscopy was also inserted blindly until last century, but now it is standard to insert under direct vision. This video demonstrates on the feasibility, practicality and potential advantages of performing direct intubation and visualization of the anorectum with the colonoscope, which we have practiced since 2001.
Our aim was to assess if performing colonoscopies to all patients submitted to endoscopic resection of polyps and rectosigmoidoscopies were scheduled, 64 of which were performed, either a drop rate of 72.88%. The reduction rate was 72.7% compared to 2019 and 78.52% compared to 2018. Colorectal cancer was detected in 13 patients, either an incidence rate of 20.31% versus 10.21% in 2019 and 8% in 2018. From July 1 to December 31, 2020, 301 colonoscopy and rectosigmoidoscopies were performed, either a reduction rate of 53.62% compared to 2019 and 39.8% compared to 2018. Colorectal cancer was detected in 18 patients either an incidence rate of 5.98% versus 5.23% in 2019 and 6.4% in 2018.

Conclusions COVID 19 pandemic has led to a sharp reduction in the number of endoscopic examinations performed without influencing the detection rate of colorectal cancers, thanks to a precise selection of patients and the indications for endoscopic examinations.

eP052  RISK FACTORS FOR COLONIC SESSILE SERATED LESIONS

Aims Sessile serrated lesions (SSL) are pre-malignant colorectal lesions thought to be precursors to 20–35% of colorectal cancer (CRC). However, little is known about their epidemiology. Our aim was to identify risk factors for SSL.

Methods Cross-sectional study including patients submitted to high quality colonoscopy between 2016 and 2021. We excluded patients with history of polyposis syndromes, inflammatory bowel disease and colorectal cancer. Patients with adenomas were excluded from the analysis. We assessed potential risk factors (sex, body mass index, education level, use of NSAIDs, statins, calcium supplements, smoking habits, fiber intake, physical activity and family history of CRC). Multivariate regression analysis was performed.

Results We assessed 524 patients of which 310 with adenomas were excluded. Of the remaining 214 patients, 51% were female with a mean age of 59.2 ± 10.3 years. SSL were detected in 20.6% (n = 44). In the univariate analysis, we found that male sex, higher BMI, higher education level, and smoking were significantly associated with increased risk of SSL. Physical activity, drinking coffee, fiber intake, use of NSAIDs, statins or calcium supplements were not associated with SSL risk. In the multivariate analysis, sex (OR 1.04, 95% CI 1.01–1.07, p = 0.049), smoking status (OR 2.74, 95% CI 1.67–4.51, p < 0.001), education (OR 0.93, 95% CI 0.58 – 1.65, p < 0.001) and BMI (OR 1.09, 95% CI 1.02–1.17, p = 0.015) were found to be independent risk factors for SSL when adjusting for sex and age.

Conclusions SSL were independently associated with sex, education, smoking and high BMI. A better understanding of the epidemiology of SSL is warranted to institute effective predictive tools for risk stratification.

eP055  SHOULD WE RECOMMEND THE PERFORMANCE OF ROUTINE COLONOSCOPIES AFTER ANY EPISODE OF ACUTE DIVERTICULITIS?

Aims The incidence of acute diverticulitis (AD) is rising because of the progressive ageing of the population. Follow-up colonoscopies are usually performed to exclude concomitant colorectal cancer (CRC). However, recent publications indicate that their real benefit may not compensate for their potential risks. Our aim was to assess if performing colonoscopies to all patients suffering from an AD would improve the CRC detection.

Methods We carried out a retrospective study. We reviewed the clinical history of patients who presented with AD from June/2018 to December/2018.

Results 60 (77%) of the 77 patients included presented a non-complicated AD. 18% had a complicated course being abdominal abscess the most frequent complication. The diagnosis was achieved through a CT-scan in all cases. 45% of patients underwent a colonoscopy from 1 to 3 months after the AD. 9 patients (12%) had a normal colonoscopy in the last 5 years. Only one patient...
(1.3%), who presented with complicated AD and suggestive malignant findings on CT-scan, was diagnosed with CRC.

**Table 1**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Woman</th>
<th>42 (55%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (average)</td>
<td>64.2 years (± 13.07 years)</td>
<td></td>
</tr>
<tr>
<td>Family or personal history of CRC</td>
<td>No</td>
<td>77 (100%)</td>
</tr>
<tr>
<td>CT-SCAN findings</td>
<td>Acute diverticulitis</td>
<td>76 (99%)</td>
</tr>
<tr>
<td></td>
<td>Abscess</td>
<td>7 (9%)</td>
</tr>
<tr>
<td></td>
<td>Fistula</td>
<td>2 (3%)</td>
</tr>
<tr>
<td></td>
<td>Perforation</td>
<td>4 (5%)</td>
</tr>
<tr>
<td></td>
<td>Colonic wall &gt; 5 cm</td>
<td>1 (1%)</td>
</tr>
<tr>
<td></td>
<td>Pelvis mass</td>
<td>1 (1%)</td>
</tr>
<tr>
<td></td>
<td>Lymphadenopathy</td>
<td>2 (3%)</td>
</tr>
<tr>
<td></td>
<td>Abdominal liquid</td>
<td>11 (15%)</td>
</tr>
<tr>
<td></td>
<td>Obstruction</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Follow-up colonoscopy findings</td>
<td>Diverticulum</td>
<td>44 (100%)</td>
</tr>
<tr>
<td></td>
<td>Estenosis</td>
<td>1 (1%)</td>
</tr>
<tr>
<td></td>
<td>Polyps</td>
<td>22 (55%)</td>
</tr>
<tr>
<td></td>
<td>Colorectal cancer</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

**Conclusions** We conclude that the recommendation of performing a routine colonoscopy after any episode of AD is not justified. This thinking comes from the time where the diagnosis of AD was achieved by an opaque enema, which has a low sensitivity and specificity to discard CRC. Nowadays the implementation of enhanced CT-scan leads to a reliable diagnosis with a low rate of misdiagnosing CRC. In the presence of CRC risk factors, alarm symptoms, AD complication, or malignant findings on CT-scan, the performance of a colonoscopy becomes essential.

**eP056** EFFECTIVENESS AND TOLERABILITY OF COLONOSCOPY PREPARATION WITH 1L PEG + ASCORBIC ACID VERSUS SODIUM PICOSULPHATE WITH MAGNESIUM CITRATE IN ELDERLY PATIENTS IN A REAL LIFE SETTING

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**DOI** 10.1055/s-0042-1744909

**Aims** Inadequate intestinal cleansing is significantly more common in elderly patients, so colonoscopy is considered more challenging than usual due to the difficulty of preparation in this population. This study aims to compares the effectiveness and tolerability of a low volume 1L polyethylene glycol (PEG) + ascorbic acid (1L PEG + A) versus Sodium Picosulphate with Magnesium Citrate (SPMC) in patients ≥65 years old.

**Methods** Post-hoc analysis of a systematic and prospective registry of outpatients prepared with 1L PEG + A and SPMC in patients ≥65 years old. Bowel cleansing in total and right colon was assessed through the Boston Bowel Preparation Scale (BBPS). Tolerance and side effects were recorded.

**Results** Between July 2019 and October 2021, 876 patients were included, of which 272 (31%) were ≥65 years old.

**Table 1** Cleansing success rates in total colon and the right colon.

<table>
<thead>
<tr>
<th>BBPS</th>
<th>1L PEG + A (n = 156)</th>
<th>SPMC (n = 116)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL COLON</td>
<td>BBPS &gt; 6: 93 %</td>
<td>BBPS &gt; 6: 78 %</td>
<td>P &lt; 0.01</td>
</tr>
<tr>
<td>RIGHT COLON</td>
<td>BBPS &gt; 2: 92 %</td>
<td>BBPS &gt; 2: 81 %</td>
<td>P &lt; 0.01</td>
</tr>
<tr>
<td></td>
<td>BBPS = 3: 65 %</td>
<td>BBPS = 3: 28 %</td>
<td></td>
</tr>
</tbody>
</table>

Tolerance in SPMC and 1L PEG + A group was good in 88% and 86%, moderate in 7% and 4% and poor in 5% and 10% of the patients respectively (p > 0.05). 5 women in SPMC group had values < 130 mg/dl (one required emergency admission).

**Conclusions** Preparation for colonoscopy with 1L PEG + A achieves better optimal and high-quality bowel preparation compared to SPMC in patients > 65 years. Hyponatremia with clinical relevance were detected in SPMC group, which could make us assess changes in its use in elderly patients. These results confirm the effectiveness and tolerability of 1L PEG + A in elderly patients in a real-life setting.

**eP057V** REMOVAL OF AN OVER-THE-SCOPE-CLIP USING THE OVESCO-REMOVAL DEVICE BEFORE POLYPECTOMY OF THE POLYP RECURRENT

**Authors** Pérez Pérez J.¹, Garrido Gallego F.², Villa Poza J.C.¹, Ponferrada Díaz Á.¹, Martínez-Alcalá Á.¹

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**DOI** 10.1055/s-0042-1744910

We present the case of a 64-year-old woman. In November 2020, a 45 mm sessile polyp was found during a screening colonoscopy. The initial resection attempt was complicated by massive spurting bleeding. During the next colonoscopy we observed significant fibrosis and decided to perform EFTR with CLOSE AND CUT technique using OVESCO 14/6t clip. During follow up, we observed adenomatous tissue with LGD growing around the clip. Due to the tissue overgrowing across the thinner area of the OVESCO Clip, it was necessary to cut it into 4 pieces. After removing the clip, we performed a piece-meal resection.

**eP058V** CHALLENGES IN THE OCCLUSION OF GI FISTULAE: ENDOSCOPIC CLOSURE OF A COMPLEX RECTOVAGINAL FISTULAE

**Authors** Pérez Pérez J.¹, Villa Poza J.C.¹, Garrido Gallego F.², Ponferrada Díaz Á.¹, Martínez Alcalá Á.¹

**Institutes** 1 Hospital universitario Infanta Leonor, Madrid, Spain

**DOI** 10.1055/s-0042-1744911

We present a case of a rectovaginal fistula in a 63-year-old woman with past medical history of rectal cancer surgically resected in 2011. The patient complained of an increasing presence of stool through the vagina. Surgical correction was offered, who declined, so we decided to repair it endoscopically. First, we placed a guidewire through the fistula tract. Argon plasma coagulation was used on the fibrotic edges of the fistulae, which was then scraped with a brush. Endoscopic suture was performed using an OverStitch device (Apollo). We placed and sutured a self-expandable metallic stent (SEMS) instead of performing a discharge ileostomy.
Conclusions
Faecal Microbiota Transplant (FMT) – 4 patients, clinical success – 100 %. Re-treated with teicoplanin and probiotics with response rate of 61.53 %.
vancomycin and metronidazole-85.54 % (77/90). Non or partial responders (32/90); Health care associated infection – 5.57 % (5/90). Recent antibiotic use, colonic infection – 58.80 % (53/90); Community acquired infection – 35.55 %
Glutamate dehydrogenase (GDH) antigen positivity – 7.49 % (20/267). Nosocomial risk factors and treatment response were evaluated. CDAD was confirmed with detection of Toxin A or B or both using ELISA.

Results
N = 267. Prevalence of CDAD-33.7 %; toxin positivity -26.21 % (70/267); Glutamate dehydrogenase (GDH)antigen positivity – 7.49 % (20/267). Nosocomial infection – 58.80 % (53/90); Community acquired infection – 35.55 % (32/90); Health care associated infection – 5.57 % (5/90). Recent antibiotic use, Proton Pump Inhibitors (PPIs) use, steroid use ≥2 weeks, Intensive Care Unit (ICU) stay and chemotherapy were independent risk factors. Response rates to vancomycin and metronidazole-85.54 % (77/90). Non or partial responders were treated with teicoplanin and probiotics with response rate of 61.53 %.
Fecal Microbiota Transplant (FMT) – 4 patients, clinical success – 100 %.
Reurrence rate of CDI – 6.66 % (6/90). 30-day mortality rate – 3.33 %.

Conclusions
Clostridioides difficile associated Diarrhoea (CDAD) is one of the important causes of acute Diarrhoea in the hospital and community set up. PPIs, antibiotics, chemotherapy, steroids and ICU stay are the main risk factors for CDAD. Vancomycin and metronidazole are drugs of choice as first line treatment options for CDAD. Teicoplanin or FMT can be used in unresponsive or recurrent cases.

Aims The aim is to evaluate the differences between older and younger patients regarding the incidence of colorectal polyps, their endoscopic characteristics and the overall complication rate after resection.

Methods This is a retrospective study conducted from January 2000 to August 2021. Our patients were divided into 2 groups. The inclusion criteria were: patients with less than four polyps with a size>3mm found during total colonoscopy with good characterization of the polyps.

Results The mean age was 39.8 ± 8 years in group A and 64.4 ± 8.86 years in group B with no significant difference in sex ratio.
Polyps were mainly located in the left colon in both groups (49.1 % and 39.1 % in group A and B respectively). According to the Paris classification, there was a significant predominance of sessile polyps in group B (82.8 % vs 66.7 %, p = 0.02).
Cold loop resection was the most common technique used in group A in 41.2 % vs. 16.5 % (p<0.001) while forceps resection was the most common in group B in 43.3 % vs. 23.5 % (p = 0.014). The early complication rate, defined as the occurrence of bleeding after polypectomy, was not significantly different between the two groups (p = 0.57), as well as the late complication rate after using complementary manoeuvres.

Conclusions Our study confirms that endoscopic resection of recto-colonic polyps is a safe procedure in elderly patients and that there is no difference in effectiveness compared to younger patients.

Aims Colorectal polyps are the main precursor lesions of colorectal cancer (CRC). Detecting polyps is essential to reduce the incidence of CRC and the consequent morni mortality.

In the current study, we aim to determine the prevalence and risk factors for colorectal polyps detected during colonoscopy.

Methods This retrospective, descriptive and single-center study of 1518 cases was conducted over a period from January 2018 to August 2021.

Results The study included 1518 subjects. Among them, 356 (23.5 %) had colorectal polyps. The mean age was 60.5 ± 12.68 years (age range: 19–92 years). The sex ratio (M/F) was 1.87 and 65.2 % were male.
In multivariate analysis, age (OR: 0.9, 95 %CI: [-0.04--0.01], p = 0.001) was a significant risk factor. The presence of polyps and the age of the patient were significant risk factors. The presence of polyps and the age of the patient were significant risk factors.

Conclusions In our study, we diagnosed polyps in 23.5 % of patients. The presence of colorectal polyps was statistically significantly associated with age, history of polyps and the presence of colorectal process.

Aims Constipation is probably the most common digestive symptom. It may be the expression of an organic or functional pathology. The etiologies are multiple and must be eliminated. The aim of our study is to evaluate the inter-
est of colonoscopy in the exploration of constipation according to the age of the patient.

Methods This is a retrospective descriptive study, including 387 patients who underwent colonoscopy for constipation between January 2018 and August 2021. Patients were divided into 2 groups: Group 1: age < 50 years and Group 2: age ≥ 50 years. The epidemiological, clinical, and endoscopic data of the patients were evaluated. Patients with known IBD were excluded from our study. Data collection and statistical analysis were performed using SPSS 21.0 software.

Results A total of 1518 patients underwent colonoscopy, of whom 387 had constipation (25.5%). The mean age of our patients was 57.18 ± 14.79, with a sex ratio (M/F) = 1.02. Colonoscopy was normal in 62.8% and pathological in 37.2% (G1: 18.6%; G2: 41.5%; p < 0.001). The main pathologies found were: rectal polyps in 61% (G1: 46.7%; G2: 69.1%; p = 0.092), colorectal neoplastic lesions in 21.3% (G1: 20%; G2: 22.2%; p = 0.670), colonic diverticulosis in 17.7% (G1: 0%; G2: 17.3%; p = 0.117), appearance of colitis in 7.8% (G1: 33.3%; G2: 4.9%; p = 0.004). In multivariate analysis, the factors associated with pathological colonoscopy for constipation were: age over 50 years (p < 0.001), male gender (p = 0.002), history of colorectal cancer (p = 0.05), and presence of associated anemia (p = 0.01).

Conclusions Constipation represents 25.5% of the indications for colonoscopy in our practice. Our study showed that constipation in the over 50s is an independent risk factor for pathological colonoscopy in cases of constipation. Male gender, history of CRC and anemia were also predictive factors for pathological colonoscopy in this context.

**eP064 ENDOSCOPIC SUBMUCOSAL DISSECTION FOR THE TREATMENT OF GIANT COLORECTAL LESIONS. OUTCOMES FROM A PROSPECTIVE MULTICENTER REGISTRY**

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**DOI** 10.1055/s-0042-1744917

**Aims** To evaluate the outcomes of endoscopic submucosal dissection (ESD) for the treatment of giant (≥ 10cm) colorectal lesions (CRL).

**Methods** Consecutive prospective registry of all CRL intentionally treated by ESD in 4 Spanish tertiary centers between January 2013 and November 2021. Lesions ≥ 10cm according to the anatomopathological report were included for analysis.

**Results** 16 lesions in 16 patients were included. Lesions most frequently appeared in women (62.5%), mean age 67 (SD: 16). Main location was rectum (50%) followed by sigmoid colon (37.5%) and right colon (12.5%). Mean size was 124.8mm (SD: 23.7). Predominant morphology was LST granular-mixed type (87.5%). Endoscopic treatment was completed in 100% cases. En-block resection rate was 87.5%, 2 cases were converted to piecemeal hybrid-ESD. Mean procedure time was 367 min (SD: 161) and mean hospital stay 2.5 days (SD: 1.5). Complications appeared in 62.5% cases: post-electrocoagulation syndrome (31.2%), delayed bleeding (12.5%), intra procedural perforation (6.25%), stenosis (6.25%). 1 patient (6.25%) presented a delayed perforation being the only case requiring surgical treatment.

Definitive histology was: low-grade dysplasia (25%), high-grade dysplasia (56.25%), intramucosal carcinoma (6.25%) and submucosal carcinoma (12.5%). Complete resection rate was 43.75%. Resection was non-curative in 1 case (6.25%) due to submucosal invasion by carcinoma but patient declined further treatment. 8 cases (50%) with dysplasia presented positive/non-assessable margins.

All patients are under medical follow-up (median time: 15.2 months, IQR 11.4). 14 patients (87.5%) underwent at least one follow-up endoscopy and only one (6.7%) local recurrence was detected and successfully treated by endoscopy.

**eP065 BARRIERS AND WILLINGNESS FOR COLORECTAL CANCER SCREENING IN A MUSLIM POPULATION OF SOUTH ASIAN COUNTRY: NATIONWIDE SURVEY (INTERIM ANALYSIS)**

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**DOI** 10.1055/s-0042-1744919

**Aims** To evaluate barriers of CRC screening in Pakistani population aged > 40 years.

**Methods** A cross-sectional, questionnaire-based study was conducted among the general population from all provinces of Pakistan. Data is analyzed using Statistical Package for Social Sciences (SPSS version 21.0).

**Results** It is an ongoing study, with 1117 participants included Mean age of 50.70 ± 7.07 years with 56% of males. 963 (86.2%) participants were unaware of CRC disease. In fact, 689 (61.7%) did not even hear about it. 655 (58.6%) had no intention to get screened in the future. The main barriers were lack of knowledge of CRC screening test (p = 0.035), lack of screening test facilities availability (p = 0.001), cost (p = 0.000), unsure about the safety of colonoscopy (p = 0.000), the ineffectiveness of screening test (p = 0.000), and lack of government-funded screening program (p = 0.001). The unavailability of a preferred gender doctor for colonoscopy was also a significant barrier (p = 0.000). 642 (57.5%) participants will not opt for colonoscopy if the preferred doctor is unavailable.

**Conclusions** In our ongoing survey, we found multiple colorectal cancer screening barriers among the general Pakistani population. A majority of participants were unaware of CRC. Extensive government-led awareness campaign must be launched. Moreover, the availability of preferred gender endoscopists must be ensured to increase compliance.

**eP066 DISEASE COURSE OF SEGMENTAL COLITIS ASSOCIATED TO DIVERTICULOSIS**

**Authors** Sinagra E.1, Alloro R.1, Maida M.2, Rossi F.1, Conoscenti G.1, Testai S.1, Marasà M.1, Cristofalo S.1, Pupura P.1, Calandra A.2, Pompei G.4, Genova R.4, Taormina D.4, Di Ganci S.3, Tarantino I.5, Raimondo D.1

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**DOI** 10.1055/s-0042-1744919

**Aims** This study aims to provide new data about the prevalence and the disease course of segmental colitis associated with diverticulosis (SCAD).

**Methods** We retrospectively reviewed a prospective cohort of 10438 patients undergoing a colonoscopy at our unit from 2014 to 2020. Data were collected.
and analyzed in order to evaluate prevalence and clinical course of SCAD assessed with clinical and endoscopic remission rate, incidence of complications and mortality.

**Results** Out of 10438 patients undergoing colonoscopy 2256 (21.6%) had diverticular disease, and 122 (1.1%) received a diagnosis of SCAD. Overall, 85 patients (69.7%) were male, 99 (81%) had comorbidities, only 33 (27%) were asymptomatic, 40 (32.8) had a previous diagnosis of diverticular disease. Mean age was 64.8 +/- 12 years, while mean clinical follow up was 42.5 +/- 24 months. 22 patients presented an endoscopic follow up (21.6+/- 30 months). Clinical remission rate was 96.7%. Switch to an inflammatory bowel disease was observed in 3.3%. Access to emergency department for complicated diverticular disease were registered in 15 patients (12.3%). Adenomatous polyps and colorectal cancer were observed in 39 (31.9%) and 2 patients (1.6%), respectively. Overall mortality and surgery rate were 0 and 5%, respectively.

At the univariate analysis, no variables were associated to clinical remission. A familial history for gastrointestinal disease (p = 0.02), and age (p = 0.02) were associated to access to emergency department.

**Conclusions** To our knowledge, this is the largest study assessing the disease course of SCAD. Forthcoming studies, with a larger sample and adequate endoscopic follow-up are needed.

**Table 1**

<table>
<thead>
<tr>
<th>FOBT + for age group &gt;75, n = 4,064</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
</tr>
<tr>
<td>40-75 (n = 3841)</td>
</tr>
<tr>
<td>76-85 (n = 205)</td>
</tr>
<tr>
<td>&gt;86 (n = 18)</td>
</tr>
<tr>
<td>61.3 ± 7.4</td>
</tr>
<tr>
<td>78.55 ± 2.5</td>
</tr>
<tr>
<td>90.6 ± 6.4</td>
</tr>
<tr>
<td>80 (2.1%)</td>
</tr>
<tr>
<td>6 (2.9%)</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>p = 0.59</td>
</tr>
</tbody>
</table>

**Conclusions** Although the prevalence of CRC increases with age, no significant increase in the detection rate of CRC by FOBT was found in both the elderly and very elderly age groups. Screening colonoscopy in elderly patients should be performed only after careful consideration of potential benefits, risks, and patient preferences.

**eP068 TREATMENT OF A IATROGENIC PERFORATION OF A COLORECTAL ANASTOMOTIC STRicture USING A LUMEN APPosing METAL STENT (LAMS) RELEASEd WITHOUT EUS**

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**DOI** 10.1055/s-0042-1744921

**Aims** LAMS are generally applied under EUS guide to treat pancreatic fluid collections, to drain the gallbladder or the common bile duct, to create gastro-entero anastomoses. The aim of this case report was to assess the possibility to release a LAMS during colonoscopy, without the EUS guide, in case of a iatrogenic perforation after a balloon dilatation of a stenotic colorectal anastomosis.

**Methods** A 51-year-old woman underwent left hemicolectomy with colorectal anastomosis and temporary ileostomy due to a sigmoid diverticular abscess. One month later colonoscopy showed a complete stenosis of the colorectal anastomosis; a guide wire was barely passed through, a 6mm balloon dilatation was done but the occurrence of a small perforation was confirmed by the injection of a water-soluble contrast. To treat both the perforation and the stenosis we chose a 15mm LAMS. Using the same large channel gastroscope we passed the guide wire through the stricture and the catheter of the LAMS over it; finally, we released its distal flange above the stricture under fluoroscopic control and the proximal flange below the stricture under endoscopic view. After the stent deployment, additional gastrografin was injected in the colic lumen, without external spread.

**Results** No early or late adverse events occurred and after two months the LAMS was removed; the anastomosis appeared wide, without endoscopic or radiologic signs of perforation; the day after the ileostomy was closed.

**Conclusions** The EUS-less deployment of a LAMS during colonoscopy was technically and clinically successful as a rescue therapy for a iatrogenic perforation of an anastomotic stricture.

**eP069 TREATMENT OF RECURRENCES AFTER ENDOsCOpic MUCOSAL RESECTION OF LARGE NON-PEDUNCULATED COLORECTAL POLyps IN DAILY CLINICAL PRACTICE IS CHALLENGING**

**Authors** Turan A.A.3, Antonius E.1, Terhaar sive Droste J.2, Schrauwen R.W.3, Schreuder R.-M.4, Straathof J.W.3, Pijnenborg N.2, Siersema P.D.1, Van Geenen E.J.1

**Institutes** 1 Radboudumc, Nijmegen, Netherlands; 2 Jeroen Bosch Hospital, ’s Hertogenbosch, Netherlands; 3 Bernhoven Hospital, Uden, Netherlands; 4 Catharina Hospital, Eindhoven, Netherlands; 5 Maxima Medical Centre, Veldhoven, Netherlands

**DOI** 10.1055/s-0042-1744922

**Aims** Recurrence during surveillance after endoscopic mucosal resection (EMR) of non-pedunculated colorectal polyps ≥ 20mm occurs in approximately 20% and endoscopic resection of recurrences is not always successful. We evaluated recurrence rates after colorectal EMR of polyps ≥ 20 mm in daily clinical practice and the success of treatment of recurrent adenoma.

**Methods** In this retrospective multicentre cohort study, patients who underwent colorectal EMR for ≥ 1 non-pedunculated colorectal polyps ≥ 20 mm between 2014-2020 were included. Primary endpoints were adenoma recurrence during surveillance colonoscopy 6 months after EMR, resection technique of the recurrence, and recurrence size measurements.

**Conclusions** A total of 714 patients (468 male (65.6%), 287 female (34.4%)) were included, with a mean age of 61.6 years (± 13.3). Clinical follow-up (24.6 ± 14.0 months) was available in all patients. At a median follow-up of 24 months, 62 patients (8.7%) had a recurrence during surveillance colonoscopy. Recurrence rates were similar for patients with EMR ≥ 20 mm (2.7%; n = 77) and patients with EMR < 20 mm (2.4%; n = 637), with no significant difference (p = 0.772).
Recurrences, and adenoma re-recurrences at 18 months after initial EMR. Secondary endpoints were predictive factors for (re-)recurrences.

**Results**

EMR was performed for 1,284 large colorectal non-pedunculated polyps, and ≥1 surveillance colonoscopy was performed after 1 to 3 years. EMR procedures were performed in 2014-2019 from 33.3% to 4.3%. Treatment of choice for recurrence was EMR (49.4%), followed by cold snare resection (16.7%) or an avulsion technique (8.0%). A re-recurrence was seen in 33.5% (52/155) of polyps.

**Conclusions**

Recurrence at 6-18 months after colorectal EMR of large non-pedunculated polyps in daily clinical practice is substantial but recurrence rates were found to decrease over time. Treatment of recurrences is challenging and was not successful in two-thirds of polyps, highlighting the need for further improvement.

**eP070**

**CAP-SUCTION UNDERWATER ENDOSCOPIC MUCOSAL RESECTION (CAP-UEMR) AS AN EASY-TO-USE AND EFFICIENT TECHNIQUE FOR TREATING FLAT COMPLEX COLORECTAL LESIONS: A PROOF OF CONCEPT PILOT STUDY**

**Authors**

Uchina H.1,2, Calm A.1, Marín L.1, Colán-Hernández J.1, Caballero N.1, Iborra E.1, Puig M.1, Fortuny M.1, Ortega A.2, Turro R.3, Da Costa M.3, Temiño R.1, Rosinach M.2, Mata A.2, Domenech E.1, Moreno V.1, Espinos J.2, Pellisé M.3

**Institutes**

1 Hospital Universitari Germans Trias i Pujol, Gastroenterology, Badalona, Spain; 2 Teknon Medical Center, Gastrointestinal Endoscopy, Barcelona, Spain; 3 Hospital Clinic de Barcelona, Barcelona, Spain

**Aims**

To evaluate the safety, utility and technical success of Cap-suction underwater EMR (CAP-UEMR) for the treatment of complex colorectal lesions.

**Methods**

Prospective cohort study including non-pedunculated colorectal lesions with the following characteristics: flat-depressed, partially resected with flat residual lesion, previous attempted non-lifting lesions, or involvement of the appendiceal orifice (AO) or ileocecal valve (ICV) between September 2020 and November 2021 in two centers and a single endoscopist with experience in “classic” UEMR (as described by Binmoeller). All cases were performed by CAP-UEMR that consists in using a conic-shaped cap to apply underwater suction of the lesion until the target area shows underwater infolding (Figure 1) making snaring easier. Technical success was defined as macroscopically complete resection in the first session.

**Results**

76 resections in 56 patients (mean age 66.25 years, 54% men) were performed.

Characteristics of lesions and final histology are shown in Table 1. There were 3 intraprocedural bleeding that were controlled with tip of snare soft-coagulation and 1 delayed bleeding in a patient under anticoagulants that required blood transfusion and was treated with endoscopic clipping. There were no other complications including no perforations nor deep mural thermal damage in the defect. Technical success was 100%, en-bloc resection 55.3% (80% for lesions <20mm). No recurrences were detected (median follow-up 177 days in 37 lesions/29 patients).

**Conclusions**

CAP-UEMR is an easy-to-apply and safe technique that has the potential of being a efficient alternative for the management of flat, non lifting or difficult location complex colorectal lesions.

**eP071**

**CLINICOPATHOLOGIC PROFILES, ENDOSCOPIC FEATURES AND OUTCOMES OF PATIENTS WITH YOUNG-ONSET COLORECTAL CANCER AT THE UNIVERSITY OF THE PHILIPPINES – PHILIPPINE GENERAL HOSPITAL**

**Authors**

Velasco M.D.1, Sacdalan D.B.1, Sacdalan D.1, Zano F.1

**Institute**

1 University of the Philippines – Philippine General Hospital, Manila, Philippines

**Aims**

This study aims to describe endoscopic findings in young CRC patients (in addition to the clinical, pathologic features and outcomes).

**Methods**

This was a cross-sectional, retrospective study. Identification of cases was done through review of the Section of Gastroenterology and Section of Medical Oncology’s patient census from the period January 2013 – August 2017. All patients 39 – 49 years of age diagnosed with colon or rectal cancer who underwent colonoscopy at PGH and then subsequently admitted, with

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**Table 1**

Characteristics of the lesions and Histology

<table>
<thead>
<tr>
<th>Size mm (IQR)</th>
<th>Location, n (%)</th>
<th>Final histology, n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>23.26 (15 – 28.75)</td>
<td>0-Ila</td>
<td>35 (46.1)</td>
</tr>
<tr>
<td></td>
<td>0-Ila + Is</td>
<td>23 (30.2)</td>
</tr>
<tr>
<td></td>
<td>0-Ila + Iic</td>
<td>18 (23.7)</td>
</tr>
<tr>
<td></td>
<td>AO</td>
<td>3 (4.0)</td>
</tr>
<tr>
<td></td>
<td>ICV</td>
<td>2 (2.6)</td>
</tr>
<tr>
<td></td>
<td>Hepatic Flexure</td>
<td>1 (1.3)</td>
</tr>
<tr>
<td></td>
<td>Transverse</td>
<td>6 (7.9)</td>
</tr>
<tr>
<td></td>
<td>Splenic flexure</td>
<td>2 (2.6)</td>
</tr>
<tr>
<td></td>
<td>Left colon</td>
<td>2 (2.6)</td>
</tr>
<tr>
<td></td>
<td>Sigmoid</td>
<td>6 (7.9)</td>
</tr>
<tr>
<td></td>
<td>Rectosigmoid junction</td>
<td>2 (2.6)</td>
</tr>
<tr>
<td></td>
<td>Rectum</td>
<td>2 (2.6)</td>
</tr>
</tbody>
</table>

**Fig. 1**

Water inflow into the lesion makes it surface “on the outside”.

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**References**

complete medical records, were included in this study. Clinical data, endoscopic and histopathologic findings, as well as outcomes were noted.

**Results** A total of 80 cases of colorectal or rectal masses on colonoscopy were identified. Fifty-five percent were male, with average age at diagnosis of 39 years old. Hematochezia was the most common symptom, with an average of 8 months from symptom onset to initial consult. Majority of the lesions were in the rectum and sigmoid. Only two patients presented with synchronous malignant lesions. Fifteen percent had concomitant colonic polyps. Twenty lesions (25%) were noted to significantly obstruct the lumen. Sixty-five patients (81%) were found to have an adenocarcinoma on histopathology. Thirty patients (37.5%) presented with Stage IV cancer.

**Conclusions** Young-onset CRC in Filipino patients presents almost equally in both sexes, and is not associated with a personal or family history of predisposing conditions. A delay in diagnosis could explain the advanced stage at presentation. Further studies focusing on genetic profiles can determine the genotypic and phenotypic presentation of these patients.

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**Table 1**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median age (IQR)</td>
<td>68 (61-75,75)</td>
</tr>
<tr>
<td>Use of Anticoagulant agents</td>
<td>27 (15)</td>
</tr>
<tr>
<td>Maximal diameter mm (IQR)</td>
<td>50 (35-66,75)</td>
</tr>
<tr>
<td>R0 endoscopic resection</td>
<td>165 (91,7)</td>
</tr>
</tbody>
</table>

**Conclusions** In this tertiary university care center study, ESD appears to be a safe and effective procedure. Few risk factors for complications were identified in univariate analysis but none in multivariate analysis.
Aims The prevalence and number needed to screen of colorectal adenomas are comparable between men aged 45 to 49 years and women aged 55 to 59 years. The aim of this study was to determine sex specific differences in colorectal cancer mortality and estimate the association with adenomas and high-risk polyps at screening colonoscopy.

Methods We analyzed 338,908 individuals who underwent colonoscopy within a national colorectal cancer screening program in Austria between 01/2007 and 12/2020.

Results Mean age (60 years [IQR 54-68]) and sex distribution in all age groups was nearly identical. Men had significantly higher odds to have adenomas, high-risk polyps, or colorectal cancer detected at colonoscopy than women (1.83 [1.80-1.86], 1.66 [1.62-1.70], and 1.82 [1.67-1.97], respectively). Strikingly, male sex, when compared to female sex, was associated with a 2-fold [HR 2.045] increased risk in to die from colorectal cancer when an adenoma was detected, and an 8-fold [8.643] increased risk when an advanced polyp was found at the screening colonoscopy.

Conclusions Men with an adenoma or high-risk polyp detected at screening colonoscopy were at significantly higher risk to die of colorectal cancer compared to women.

eP076 COLONOSCOPY IN THE VERY ELDERLY: SHOULD WE JUST USE THE CT SCANNER?

Authors Williams S.1, Bergbaum C.1, Norton B.1, Hung A.1, Baskind S.1, Besherdas K.1

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Aims Lower gastrointestinal symptoms are common in the very elderly; however, colonoscopy is not always appropriate due to choice, fitness and/or periprocedural risk. In a cohort where the vast majority already undergone cross-sectional imaging, computed tomographic colonography (CTC) could become the first-line test. We analysed a very elderly cohort undergoing colonoscopy to assess the diagnostic yield and eventual treatment.

Methods We performed a retrospective analysis of 122 elderly patients aged ≥85, who underwent colonoscopy in 2020 at Chase Farm Hospital, London. Patient demographics, indication, diagnosis and management were determined from endoscopy databases.

Results The average age was 87 (85-100) with 57% having ≥3 major co-morbidities. Colorectal cancer (CRC) was found in 22 (18%) patients and polyps ≥6 mm in 38 (31%). Among those with CRC eight underwent curative surgery, three declined, three had chemo/radiotherapy and eight received best supportive care. All cause one-year mortality was 7.4%. CT was completed in 64% before endoscopy. Of the 36% who did not undergo imaging two were diagnosed with cancer and ten had polyps ≥6 mm.

Conclusions There was a high prevalence of CRC and large polyps, but minimal colonoscopy undertaken definitive treatment. In addition, in a cohort with a 7.4% 1-year mortality the risk/benefit of removing diminutive polyps unlikely to develop into clinically significant tumours needs to be questioned. We should consider a CTC-first approach in this age group to enable better risk stratification and discussion about colonoscopic intervention to prevent unnecessary, high-risk procedures, which would have prevented over a quarter of colonoscopies in our cohort.

eP077 ACETIC ACID WITH NBI/BLI FOR PIT PATTERN DIAGNOSIS OF THE COLORECTAL POLYPS

Authors Yamamoto S.1, Ishida H.1, Mita E.1

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Aims Kudo’s pit pattern classification has been used for endoscopic evaluation of colorectal polyps. Our aim is to analyze the feasibility of acetic acid together with NBI or BLI (aceto-electrical chromoendoscopy; AEC) for inspecting the pit pattern.

Methods This is a retrospective analysis of a prospectively maintained database between April 2020 and July 2021. Lesions with apparent appearance of advanced cancer were excluded. We used 1.5% acetic acid spraying directly through endoscopic channel. We evaluated the polyps with white light and Japan NBI Expert Team (JNET) classification followed by pit pattern using AEC.

Results We performed AEC in 34 lesions. Endoscopic treatment was performed in 25, and surgery performed in 9. Numbers in each [NET type (1/2A/2B/3)] were 3/16/10/5. Numbers in each pit pattern ([II]/[III]/[IV]/[V]/[VI]) were 4/3/5/6/9/3. In comparison with histology, 1 hyperplastic polyp, 1 adenoma and 2 SSL were included in lesions with type-II pit. All 7 lesions with type-III pit and 4 with type-IV pit were adenomas. T1 cancer was seen in lesions with type-IV/Vi/VI/VII as 1/3/3. T1 cancer was seen in lesions with type-Vi/Vi as 4/2. Two T2 cancer was seen in type-Vi/Vi and in type-Vi/Vi.

We determined the indication of treatment based on these evaluations, and there was no under or over estimation of the treatment.

Conclusions AEC feasible for evaluating the pit pattern of the colorectal polyps and may be useful for appropriately indicating endoscopic treatment or surgery for these lesions.

eP078 ANALYZING EFFECTIVENESS AND SAFETY OF BOWEL PREPARATION USING SAME-DAY PICOSOLUTION AND BISACODYL

Authors Yoon J.Y.1, Kim E.S.1, Chun H.J.1, Jeen Y.T.1, Keum B.1, Choi H.S.1

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Aims Since PS/MC and BIS/PEG has lesser volume to intake, the patient’s compliance is high and the usage rate is increasing. Concerning about electrolyte imbalance, usually a split-dose regimen was used, in which. whichever preparation was taken in the evening of the previous day and in the morning of the procedure. However, the patients’ quality of sleep decrease, nowadays the idea of same day-PS/MC and same day-BIS/PEG is emerging as alternative method.

Methods This single center study recruited patients who had total colonoscopy between January 2020 and April 2021. Before the patients underwent total colonoscopy, the indication of endoscopy had been documented. Underlying diseases and medications of the patients related to constipation had been checked. During the endoscopy, Boston Bowel Preparation Scale (BBPS) and HCS score were evaluated by a single performer. In addition, colecal intubation success and time of procedure and withdrawal were also recorded. Since the bowel prep can cause electrolyte imbalance, serum levels before and after patients’ bowel preparations about above mentioned were measured.

Results 300 cases were enrolled to this study. Based on BBPS and HCS score the bowel preparation at right colon was not inferior in same-day group than split-day group. Procedural time was compared and there was no significant difference between two groups. Patient satisfaction level was also higher on same-day PS/MC group than split-day group. Electrolyte imbalance were not significantly different.

Conclusions Total colonoscopy is a procedure which patients often express unwillingness due to bowel preparation. Since quality of life is considered to be more and more important these days, ease of bowel preparation with same quality of result would be meaningful.

eP079 RECURRENT AFTER ILEOCOLIC RESECTION IN CROHN’S DISEASE: THE PERFORMANCE OF RUTGEERTS SCORE

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**Aims** The aim of this study was to evaluate the performance of Rutgeerts score for predicting disease recurrence and treatment adjustment in CD patients.

**Methods** We conducted a retrospective and analytical study including all patients with Crohn’s disease who underwent ileocaecal resection. Colonoscopy was performed 6 to 24 months on post-surgery.

**Results** Our study included 42 patients (28 men and 14 women). The mean age of our patients was 43 years. Twelve patients were smokers (28%). The phenotype of CD was stricture in 59% of cases and penetrating in 38% of cases, with the presence of anoperineal manifestations in 7 cases (16%). The indication of surgery was urgent in 35% of cases. All patients were regularly followed and 31 patients (74%) were placed on postoperative medical treatment before colonoscopy. These included SASA in 4 patients, Azathioprine in 25, and Anti TNF alpha in 2 patients. Therapeutic abstention was decided in 11 patients (26%). The Rutgeerts score was <12 in 13 patients (31%), and > or equal to 12 in 29 cases (69%).

Thirty one patients needed escalation of CD-related medications: Azathioprine indicated in 34% of our patients and Anti-TNF alpha was indicated in 66% of our patients. Clinical recurrence was significantly associated with endoscopic recurrence (p = 0.0001).

**Conclusions** Rutgeerts score is considered a useful decision-making tool for monitoring disease after ileocaecal resection. It allows to avoid clinical recurrence and to prevent complications.

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**eP080 ADVANCED TECHNOLOGY FOR ASSESSMENT OF ENDOSCOPIC AND HISTOLOGICAL REMISSION IN ULCERATIVE COLITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS**

**Authors** Nardone O.M.1, Snir Y.2,3, Hodson J.4, Cannatelli R.1, Labarile N.1, Siau K.5,6, Hassan C.7, Yanai H.2,3, Dotan I.2,5,7, Ghosh S.1,8,9, Iacucci M.1,8,9

**Institutes** 1 University of Birmingham, Institute of Immunology and Immunotherapy, Birmingham, United Kingdom; 2 Tel Aviv University, Sackler Faculty of Medicine, Tel Aviv, Israel; 3 Rabin Medical Center, Bellinson Campus, Division of Gastroenterology, Petach-Tikva, Israel; 4 University Hospitals Birmingham NHS Foundation Trust, Department of Health Informatics, Birmingham, United Kingdom; 5 Queen Elizabeth Hospital, UHBFT, Institute for Translational Medicine, Birmingham, United Kingdom; 6 Royal Cornwall Hospitals NHS Trust, Department of Gastroenterology, Truro, United Kingdom; 7 Nuovo Regina Margherita Hospital, Department of Gastroenterology, Rome, Italy; 8 University Hospitals Birmingham NHS Trust, NIHR Wellcome Trust Clinical Research Facilities, Birmingham, United Kingdom; 9 University of Birmingham and University Hospitals Birmingham NHS Foundation Trust, NIHR Biomedical Research Centre, Birmingham, United Kingdom; 10 University College Cork, APC Microbiome Ireland, College of Medicine and Health, Cork, United Kingdom

**DOI** 10.1055/s-0042-1744933

**Aims** Advanced endoscopic technologies led to significant progress in the definition of endoscopic remission of ulcerative colitis (UC), and correlate better with histological changes, compared to standard endoscopy. However, whilst studies have assessed the diagnostic accuracy of endoscopy technologies individually, there is current limited data comparing between technologies. As such, the aim of this systematic review was to compare the correlations between endoscopy and histology disease activity scores across endoscope technologies.

**Methods** We searched PubMed and Embase in January 2021 for eligible studies reporting the correlation between endoscopy and histology activity scores in UC. Studies were grouped by endoscope technology as standard-definition white light (SD-WLE), high-definition white light (HD-WLE), or electronic virtual chromoendoscopy (VCE), and comparisons made between these groups.

**Results** A total of N = 27 studies were identified, of which N = 12 were included in a meta-analysis of correlations between endoscopic and histological activity scores. Combining these returned a pooled correlation coefficient (rho) for the SD-WLE group of 0.61, which did not differ significantly from HD-WLE (rho: 0.79, p = 0.140) or VCE (rho: 0.70, p = 0.471). In addition, N = 4 studies reported the accuracy of endoscopic activity scores on WLE and VCE to diagnose histological remission. Pooling these found significantly higher accuracy for VCE, compared to WLE (risk ratio: 1.13, 95% CI: 1.07-1.19, p < 0.001).

**Conclusions** Activity scores assessed using endoscopy are strongly correlated with activity on histology. VCE appears to have better accuracy for the diagnosis of histological remission in UC, compared to WLE.
eP081 POST-COLONOSCOPY COLORECTAL CANCER: INCIDENCE, CHARACTERISTICS AND PREDICTIVE FACTORS

Authors Baile-Maxía S.1, Mangas-Sanjuan C.2, Alustiza M.2, Medina-Prado L.2, Murcia O.2, Traversi N.2, Zapater P.1, De Vera F.1, García G.3, Picó M.D.3, Belda G.2, García-Herola A.4, Poveda M.J.9, Penalva J.C.1, Jover R.2

Institutes 1 Gastroenterology department, Hospital Universitario del Vinalopó, Alicante, Spain; 2 Gastroenterology department, Hospital General Universitario de Alicante, Instituto de Investigación Sanitaria y Biomédica de Alicante (ISABIAL), Alicante, Spain; 3 Clinical Pharmacy department, Hospital General Universitario de Alicante, Alicante, Spain; 4 Gastroenterology department, Hospital General Universitario de Elda, Alicante, Spain; 5 Gastroenterology department, Hospital Universitario de San Juan de Alicante, Alicante, Spain; 6 Gastroenterology department, Hospital General Universitario de Elche, Alicante, Spain; 7 Gastroenterology department, Hospital Universitario Vega Baja, Alicante, Spain; 8 Gastroenterology department, Hospital Universitario Marina Baixa, Alicante, Spain; 9 Gastroenterology department, Hospital Vingen de los Lluis, Alicante, Spain


Aims Post-colonoscopy CRC (PCCRC) has become an important quality indicator. Our aim was to determine its rate, characteristics, and associated factors.

Methods Multicenter, observational, retrospective study between 2015 and 2018 in 8 centers in the region of Alicante. We considered as PCCRC those developing up to 10 years after colonoscopy. The causes of PCCRC were categorized according to the World Endoscopy Organization (WEO) algorithm.

Results PCCRC was detected in 107 patients (mean age 72 years, 66% male), out of 101,524 colonoscopies (0.11%), which resulted in a 1-year PC-CRC rate of 1.25%, 3-year rate 2.79%, 5-year rate 3.24%, 10-year rate of 4.01%. The PCCRCs were in right (42.4%), left (41.4%) and transverse (16.4%) colon with a mean size of 36mm, with 31.5% with stage I, 24.7% stage II, 32.6% stage III, 11.2% stage IV. According to WEO, 22.8% of PCCRCs were classified as incomplete resection, 7.9% as unresected detected lesions, 44.6% as missed lesions with adequate colonoscopy, and 24.8% as missed lesions with inadequate colonoscopy. Mean time between PCCRC diagnosis and previous colonoscopy was 42 months. Inadequate colonic cleansing and previous fragmented polypectomy were associated with the occurrence of PCCRC in the multivariate analysis (p < 0.005).

Conclusions In our population, 4.27% of the diagnosed CRCs were PCCRC and, therefore, potentially preventable. Most of these lesions were in advanced stages and almost half were attributable to lesions not visualized despite adequate colonic cleansing. Inadequate colonic cleansing and previous fragmented polypectomy were independently associated with the occurrence of PCCRC.

eP082 COLONIC ENDOSCOPIC SUBMUCOSAL DISSECTION USING A NOVEL ROBOTIC SYSTEM

Authors Kim S.1, Keum B.1, Choi H.S.1, Kim E.S.1, Jeen Y.T.1, Chun H.J.1, Lee J.M.1, Lee H.S.1

Institute 1 Korea University College of Medicine, Department of Internal Medicine, Seoul, Korea, Republic of


Aims Appropriate tissue tension and clear visibility of the dissection area using traction are essential for effective and safe endoscopic submucosal dissection (ESD). We developed a robotic assistive traction device for colonoscopy. This is a preclinical animal study to evaluate the performance of colorectal ESD using novel robotic system.

Methods Experienced endoscopist performed ESD on ex vivo porcine colon ten times using a robot and ten times by the conventional method. The outcome measures were operating time (from starting incision to finishing dissection), completeness of resection, procedure-related adverse events, and limitations of arm manipulation in a narrow working space as assessed by counting the frequency of blind cutting. We also conducted an in vivo feasibility study on live pig.

Results Total of twenty colonic lesions were resected from ex vivo porcine colon. The submucosal dissection speed was significantly faster in robotic ESD than in conventional ESD (P = 0.002). Adverse events such as perforation were also significantly higher in the conventional group. In the in vivo feasibility study, robot was attached to the colonoscope and inserted into the proximal colon. ESD was performed successfully.

Conclusions When the robot was assisting in the ESD procedure, the dissection speed improved significantly. Our robotic device can thus provide simple, effective, and safe multidirectional traction during colonic ESD.

eP083 EVALUATION OF ULCEARATIVE COLITIS ENDOSCOPIC MAYO SCORE WITH ARTIFICIAL INTELLIGENCE

Authors Kani H.T.1, Ergenc I.1, Polat G.2, Ozen Alahdab Y.1, Temizel A.2, Atug O.1

Institutes 1 Marmara University, School of Medicine, Department of Gastroenterology, Istanbul, Turkey; 2 Middle East Technical University, Institute of Informatics, Ankara, Turkey


Aims Multilayer artificial neural networks are artificial intelligence (AI) algorithms with high predictive power that allow processing large volumes of data sets. Ulcerative colitis (UC) Endoscopic Mayo Score (EMS) is a subjective assessment that varies between the endoscopists (1, 2). Our aim was to develop an AI algorithm to evaluate endoscopist-independent EMS with high accuracy and minimize the subjectivity.

Methods We enrolled the images of UC patients who were evaluated with colonoscopy between December 2011 and July 2019. EMS evaluation was performed individually and blindly for each image by three different experienced gastroenterologists. Artificial intelligence algorithm developed in Python programming language and by using the PyTorch library. Seventy percent of the data set was defined as training set, 15% as the validation set, and 15% as test set. Artificial intelligence was trained by ResNet152 model.

Results A total of 19537 images were evaluated. Images with artifact, terminal ileum and ileo-anal pouch images were excluded. A total of 11276 images were included to the data set [EMS 0: 6105 (54.1%), EMS 1: 3052 (27.1%), EMS 2: 1254 (9.9%) and EMS 3: 865 (7.7%)]. Success rate was 79.2% for differentiation of each EMS classes (Mayo 0 vs Mayo 1,2,3) and success rate was 95.9% for the differentiation of severe disease (Mayo-0.1 vs Mayo-2,3) (Fig. 1).
eP085 PREDICTIVE FACTORS FOR THERAPEUTIC ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY-RELATED COMPLICATIONS IN THE TREATMENT OF CHOLEDOCHOLITHIASIS

Authors Addajou T.1, Rokhsi S.1, Mrabti S.1, Benhamdane A.1, Touibi A.1, Guelleh M.O.1, Sair A.1, Berrida R.1, Ekkori L.1, Rouiba F.1, Benkirane A.1, Seddik H.1

Institute 1 Military Hospital Mohammed V, Rabat, Morocco


Aims Endoscopic retrograde cholangiopancreatography (ERCP) is now the exclusive endoscopic therapeutic modality for biliary as well as pancreatic diseases. The aim of our study is to evaluate the complication rate of ERCP in the treatment of choledocholithiasis and to assess the factors related to their occurrence.

Methods This is a retrospective descriptive and analytical study including 1048 patients who underwent ERCP for choledocholithiasis between January 2007 and August 2021. The factors associated with the occurrence of post-ERCP complications were studied by logistic regression analysis.

Results Among the patients studied, 60.5% had a solitary stone, 27.6% had multiple choledochal stones and 11.9% had large stones (>15mm). Clinically, 18.7% of the patients presented with cholangitis and 9.4% with acute pancreatitis. A periampullary diverticulum was found in 9.4% of cases. A common bile duct stenosis was present in 6.5% of patients.

The primary vacancy rate after ERCP was 77.3%. However, additional maneuvers were used in 20.5% of cases. Complications were reported in 5.8% of cases, including haemorrhage in 4.5%, cholangitis in 0.8%, pancreatitis in 0.2%, perforation in 0.1% and dormia impaction in 0.2%. No deaths was reported due to our procedures.

In a multivariate analysis following adjustment of confounding factors, only the presence of a large stone (OR = 5.9, CI (1.460-23.875), p = 0.013) and female gender (OR = 1.867, CI (1.012-3.444), p = 0.046) increased the risk of complications during ERCP.

Conclusions Our study suggests that female gender and the presence of a large gallstone are associated with a high risk of post-ERCP complications.
eP088  QUALITY INDICATORS FOR COLONOSCOPY IN EGYPT: A PROSPECTIVE MULTICENTER STUDY


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Aims  Colonoscopy is the gold standard colorectal cancer screening method. Despite widely available in Egypt, no sufficient data about quality performance exists. We studied 13 quality indicators in 8 centres aiming to attain a representative image about quality of colonoscopy in Egypt.

Methods  This is a Multicenter prospective study done between July–December 2020. The studied indicators included; indications, pre-procedure assessment, informed consent, colon preparation, sedation, caecal intubation rate (CIR), withdrawal time, adenoma detection rate (ADR), complication rate, photographic documentation, automated sterilization, infection control check and equipped recovery room.

Results  A total of 1006 colonoscopies were performed along the study duration in the included centers. Four indicators were fulfilled in all centers including; appropriate indications, pre-procedure assessment, informed consent and automated sterilization. However, photographic documentation and equipped recovery room were fulfilled only in 57%. Adequate colon preparation was achieved in 61% of procedures, 81% of procedures were performed under sedation, CIR was achieved in 95.4% and ADR reached 15%. Mean withdrawal time was 11 minutes and overall complications rate was 0.1%. Statistically significant factors affecting CIR were age >40 years, high definition endoscope, previous colon intervention and rectal bleeding while those affecting ADR were age >40, image enhancement, previous colon intervention, rectal bleeding, use of water pump, and withdrawal time >9 minutes.

Conclusions  Our study revealed the quality aspects of colonoscopy practice in Egypt. Colonoscopies achieved high CIR and low complication rate and ADR that met the international standards while the quality of bowel cleansing and infection control measures should be improved.

eP089  COLORECTAL CANCER DIAGNOSTIC CIRCUIT PERFORMANCE AND ITS IMPACT BY THE COVID19 PANDEMIC AT THE GIRONA REFERRAL HOSPITAL

Authors  Albert 1, Guaner 1, Espin 1, Hombrados 1, Busquets 1, Paro L1, Torrealba L1, Oliveras B1, Huertas C1, Lopez C1.

Institute 1 Hospital Universitari de Girona Doctor Josep Trueta, Gastroenterology, Girona, Spain

Aims  Colorectal Cancer (CRC) Diagnostic Circuit (CDR) is designed to provide comprehensive care for suspected CRC. The suspension of endoscopic and healthcare activity due to COVID-19 could have affected the CDR performance. Analyze the CDR performance in detecting CRC or clinically relevant lesions (CRL) and assess the impact of activity limitations due to covid-19.

Methods  Comparative analysis of CDR referrals to our center from January–May 2020, compared to January–May 2019. CDR performance was evaluated by comparing CRC diagnosis and morbidity and mortality data. CDR delay was defined as the time between diagnosis and intervention (CIR)

Results  A total of 1006 colonoscopies were performed along the study duration in the included centers. Four indicators were fulfilled in all centers including; appropriate indications, pre-procedure assessment, informed consent and automated sterilization. However, photographic documentation and equipped recovery room were fulfilled only in 57%. Adequate colon preparation was achieved in 61% of procedures, 81% of procedures were performed under sedation, CIR was achieved in 95.4% and ADR reached 15%. Mean withdrawal time was 11 minutes and overall complications rate was 0.1%. Statistically significant factors affecting CIR were age >40 years, high definition endoscope, previous colon intervention and rectal bleeding while those affecting ADR were age >40, image enhancement, previous colon intervention, rectal bleeding, use of water pump, and withdrawal time >9 minutes.

Conclusions  Our study revealed the quality aspects of colonoscopy practice in Egypt. Colonoscopies achieved high CIR and low complication rate and ADR that met the international standards while the quality of bowel cleansing and infection control measures should be improved.

Table 1  TOTAL | Before PANDEMIC | After PANDEMIC start

<p>| | | |</p>
<table>
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<tbody>
<tr>
<td>CDR n(%)</td>
<td>417</td>
<td>246 (58.99)</td>
</tr>
<tr>
<td>Timing CDR-Colonoscopy (days)</td>
<td>22.42 ± 15.64</td>
<td>28.8 ± 18.79</td>
</tr>
<tr>
<td>CRC: CRC n(%)</td>
<td>40 (16.06)</td>
<td>19 (16.81)</td>
</tr>
<tr>
<td>Mortality n(%)</td>
<td>38 (9.11)</td>
<td>29 (11.79)</td>
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Conclusions  Prioritization after restarting endoscopic activity allowed a shorter delay in performing CDR colonoscopies in our center (28.8 vs 17.6 days), this difference being statistically significant. The proportion of CRC diagnosed in CDR was similar in both periods.

eP090  IMPACT OF A LOW-RESIDUE DIET (LRD) ON BOWEL CLEANSING QUALITY (BCQ) BEFORE COLONOSCOPY: A PROSPECTIVE SINGLE BLINDED RANDOMIZED CONTROLLED TRIAL

Authors  Amalou K1, Rekab R1, Belloua A1, Atmohamed T1, Hacini N1, Benzemrane N1, Ghediri M1, Guelmami S1, Bouhouche N1, Fadel S1, Kecili N1, Kordjani S1, Medkour M.T1, Kezoula D1, Belganim F1, Bella B1, Chetroub H1, Lallli S1.

Institute 1 Algiers, Gastroenterology, Central Army Hospital, Algiers, Algeria

Aims  The optimal LRD duration is still controversial. We have compared the effect of different LRDregimens in a Mediterranean diet population on the quality of bowel preparation and patient tolerance.

Methods  Consecutive patients scheduled for outpatient colonoscopy were randomized to the 1-day, 3-days, 5-days or without LRD (control group) groups. All patients received PEG-ES for bowel preparation(8P). The primary outcome was BCQ as evaluated using the Boston Bowel Preparation Scale(4BPS). Secondary outcomes were polyp/adenoma detection, rate adherence to and level
of satisfaction with the LRD, difficulty following the dietary recommendations, and willingness to repeat the same LRD in the future.

**Results** 400 patients (100 per group) were included. There was a significant difference in BP quality between 3-days LRD and 5-days LRD. The 5-days LRD group had a BP score of 7.38 ± 1.43 points, 3-days LRD: 6.87 ± 1.81, while the 1-day LRD group had a score of 5.12 ± 1.36. The control group had a score of 5.08 ± 1.26 (p < 0.001). There was no significant difference between 3-days vs 5-days LRD or 1-day LRD vs control group.

The groups reported similar polyp detection rates and patient tolerance scores. The numbers of patients that reported that compliance as easy were 83(83%) in the 3-days group vs 58(58%) in the 5 days group (p < 0.05) and the numbers who were willing to use the diet again were 91(91%) vs 61(61%); (p < 0.05).

**Conclusions** 5-days LRD did not offer advantages over 3-days LRD in preparation for colonoscopy. Patients in the 3-day group had higher tolerance and satisfaction levels than patients in the 5-day LRD group. However, BP quality was higher with the 3-day group than with the 1-day LRD or control group.

### eP091 SINGLE-USE DUODENOSCOPES IN COMPLEX PROCEDURES

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**Institutes** 1 C. Mazzini Hospital, Gastroenterology Unit, Teramo, Italy; 2 University of Aquila, Gastroenterology Unit, L’Aquila, Italy; 3 San Giovanni di Dio e Ruggi D’Aragona University Hospital, Gastroenterology Unit, Salerno, Italy

**DOI** 10.1055/s-0042-1744944

**Aims** The duodenoscope is a complex instrument with unique mechanical features incorporated at the distal tip that creates hard-to-reach areas that make optimal mechanical cleaning and disinfection difficult.

Persistent bacterial growth in duodenoscopes allows the development of biofilm considered to be an important impediment to the effective cleaning and disinfection of scopes. A single-use duodenoscope should reduce or eliminate transmission of infection from the endoscopic instrument, but if the functionality is suboptimal, it may simply create a trade-off to reduce one complication while increasing others. We investigate the feasibility, safety and performance of disposable duodenoscope during complex procedures such as cholangioscopy with biliary tract biopsies to evaluate indeterminate strictures and to manage difficult biliary stones.

**Methods** We performed, from June 2020 through October 2021, cholangiopancreatography with single-use duodenoscope (EXALT Model D Boston Scientific Corporation, Marlborough, Massachusetts, USA) in patients with symptomatic pancreatic–biliary disorders and multidrug-resistant infections by carbapenem-resistant Klebsiella and Pseudomonas aeruginosa.

**Results** Ten cholangiopancreatography were completed with single-use duodenoscope in multidrug-resistant infections by carbapenem-resistant Klebsiella and Pseudomonas aeruginosa. The indications of procedure are: 7 indeterminate biliary obstructions, 3 common bile duct difficult stones. We performed 3 complete common bile duct stone clearance, 7 optimal self-expandable metal stents. In 7 patients we achieved a definitive histological diagnosis of malignancy through single operator cholangioscopy. Serious adverse events did not occurred.

**Conclusions** All procedures were successfully performed by single-use duodenoscopes without serious adverse events. We achieved the goal with definitive diagnosis, clearance of indeterminate bile obstructions and bile duct stone. Further data are required.

### eP092 COVID SCREENING IN THE ENDOSCOPY UNIT OF ELCHE UNIVERSITY HOSPITAL (SPAIN)

**Authors** Barragán Martínez J.1, Ojeda Gómez A.1, Brotons Brotons A.1, Íñigo Chaves A.M.1, Úbeda Porta F.E.1, Gutiérrez Alonso M.1, Cañizares Molina V.1, Vilchez Vilchez M.1, Esteve Martínez M.D.1, Boix Macia M.1, Aniorte Blasco R.1, García Soria A.1, Sáez Fuster J.1, García Sepulcre M.F.1, Sola-Vera Sánchez F.J.1

**Institute** 1 Elche University Hospital, Elche, Spain

**DOI** 10.1055/s-0042-1744945

**Aims** Due to COVID-19 pandemic, the Endoscopy Unit of Elche University Hospital decided to do clinical, epidemiological and microbiological screening prior to any endoscopic procedure, in addition to the use personal protective equipment. The aim of this study is to assess the impact of these actions on COVID-19 transmission among the patients and the staff; and also to identify when microbiological screening is not necessary.

**Methods** A clinical-epidemiological questionnaire as well as a PCR test were performed to all patients undergoing an endoscopic procedure from January 2021 to March 2021.

**Results** The total number of patients who underwent an endoscopic procedure during this period was 542. 2.7% of them had a pre-endoscopy PCR positive result and only 20% of these infected patients were symptomatic. Of the non-infected patients, 3.5% had symptoms. The highest positivity rates occurred during the second week of January 2021 and the third week of February 2021, when the cumulative incidence (CI) was respectively 458 and 648 cases per 100000 inhabitants. However, when the CI was higher (from third week of January 2021 to second week of February 2021) the positivity rates were the lowest (just one case). None of the Endoscopy Unit staff were infected at work.

**Conclusions** The actions taken were effective in preventing infection and outbreaks in the Endoscopy Unit. However, the data obtained did not allow us to use only the clinical-epidemiological questionnaire as screening. The PCR test continued to be used regardless of the presence of symptoms or the CI at endoscopy time.

### eP093 LOW POWER FORCED COAGULATION OF LARGER VESSELS WITH ESD KNIFE REDUCES HEMOSTATIC FORCEPS USE DURING ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD) AND PERORAL ENDOSCOPIC MYOTOMY (POEM)

**Authors** Baričić N.1, Budimir L.1, Hrabar D.1

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**DOI** 10.1055/s-0042-1744946

**Aims** Precoagulation of larger vessels is important in preventing bleeding and reducing operative time of third-space endoscopy procedures. Coagulation forceps is traditionally used for that purpose, requiring repeated device exchange. Precoagulation method using low power forced coagulation with ESD knife has been described by Japanese authors. Our study evaluated efficacy of 1-10 forced precoagulation during ESD and POEM procedures and its influence on coagulation forces use.

**Methods** We prospectively included 28 consecutive patients that underwent ESD or POEM in our institution. Large vessels that normally require precoagulation were hooked from both directions with opened ESD knife (DualKnife, Olympus, Japan) and coagulated using forced coagulation effect 1, 10W on VIO200D electroosurgical unit (ERBE Elektromedizin, Germany). Successful vessel coagulation and cutting was recorded, as well as failures requiring a switch to coagulation forceps.

**Results** 17 patients undergoing ESD and 11 patients undergoing POEM were included, with 61 vessels attempted for 1-10 knife precoagulation. Success rate of 1-10 knife precoagulation was 92% (56/61). Only 5/61 vessels required a...
switch to coagulation forces, due to bleeding. There was no difference in efficacy regarding procedure type (ESD vs. POEM, 91% vs 93%, p = 1). Use of 1-10 knife precoagulation obviated the need for coagulating forces use completely in 11/28 patients (39%, 6/17 in ESD and 5/11 in POEM group).

Conclusions Vessel precoagulation with knife using 1-10 forced coagulation method is effective in reducing operational time and costs during ESD/POEM.

eP094  SYSTEMATIC TRACEABILITY MONITORING IN DIGESTIVE ENDOSCOPY: A QUALITY STANDARD ?

Authors  Belkhir S.1, Gerard M.2, Ambrocio W.1, Eisenadrath P.1
Institutes 1 Saint-Pierre University Hospital, Université Libre de Bruxelles, Hepato-gastro enterologie, Brussels, Belgium; 2 Saint-Pierre University Hospital, Université Libre de Bruxelles, Infection Prevention and control team, Brussels, Belgium

Aims Traceability of reprocessing process in digestive endoscopy is essential to ensure retrospective investigation in case of contamination accident. Regular evaluation of facilities, including disinfection procedures, is recommended by ESGE in their Quality improvement initiative program. Therefore, traceability adequacy should be considered as a quality indicator. We report here the development of an automated traceability monitoring system, based on an electronic documentation system.

Methods An automated electronic system records the scope’s passage at each stage: endoscopic procedure, reprocessing (washer disinfector) and storage in the drying cabinet. Human intervention may be required to complete recording procedures in case of failure of the automatic recognition. Human or electronic mistakes may lead to missing data in the traceability process. We created a query in the database to assess the number of endoscopic procedures for which the serial number of the scope is missing. The data is available daily with retrospective study period of 180 days.

Results About 7000 endoscopic procedures are performed at Saint Pierre Hospital each year. We analysed data for period ended on December 6 2021; 3215 procedures were recorded among wich 1,64 % (53) had no recorded scope.

Conclusions This is to our knowledge the first initiative to assess adequacy of traceability using an automated monitoring in digestive endoscopy. Coupled with automatic warning, this may help to correct inefficient traceability and avoid issues in case of contamination accident.

The implementation of systematic traceability monitoring could become one of the quality standards. Adequate and reasonable targets for traceability should be proposed based on similar initiatives.

eP095  HOW TO PREVENT MUSCLES INJURIES IN ENDOSCOPISTES ?

Authors  Ben Farhat F.1, Ghane M.1, Bizid S.1, Ben Abdallah H.1, Bouali R.1, Abdelli N.1
Institute 1 Military Hospital of Tunis, Gastroenterology, Tunis, Tunisia

Aims We aim to identify the risk factors associated with the different locations of muscle pain and how to prevent them.

Methods A questionnaire including the following elements was sent to endoscopists of all ages: sex, age, weight, height, number of years of endoscopy, endoscopic indication, practice of a sports activity, presence of muscle pain as well as its location, the diagnosis chosen and the different therapeutic and ergonomic strategies.

Results One hundred and twelve endoscopists responded to the questionnaire. The mean age was 40.7 years [27-69]. The average number of years in practice was between 10 and 15 years. Muscle pain was noted in 85 % of gastroenterologists. The most frequent locations were the back (74 %), followed by the neck (55%) and shoulder (49%). Neck pains were associated with female gender (p = 0.05). Back pains were associated with years of practice > 10 (p = 0.03), number of colonoscopies greater than 5 (p = 0.01), number of upper endoscopy > 15 (p = 0.03) and doing therapeutic endoscopy (p = 0.03). The factors associated with relief of pain at any location were muscle strengthening (p = 0.02) and adoption of ergonomic strategies (p < 0.001): adjusting monitor location and distance (p = 0.03), adjusting bed height (p = 0.02) and break time between procedures (p = 0.04).

Conclusions Ergonomic design in the workplace is shown to be paramount in the prevention of muscles injuries in endoscopists.

eP096  IMPACT OF LOW FIBER DIET ON BOWEL PREPARATION FOR COLONOSCOPY

Authors  Ben Farhat F.1, Ghane M.1, Bizid S.1, Ben Abdallah H.1, Bouali R.1, Abdelli N.1
Institute 1 Military Hospital of Tunis, Gastroenterology, Tunis, Tunisia

Aims The aim of our study was to study the effect of lower fiber diet on bowel preparation and to determine the required duration of the diet in Tunisian patients.

Methods We performed an analytic, observational, and prospective study. We included all outpatients scheduled for colonoscopy in our endoscopy unit between March and April 2021. Patients were educated to control diet from 5 days before colonoscopy with information regarding an unacceptable foods list. Boston scale was used for the assessment of bowel cleaning.

Results We enrolled 54 patients in our study. The mean age was 54 [18-72] and the sex Ratio (M/W) was 2.37. The most frequent indication for colonoscopy was recent transit disorders such as constipation and diarrhea in 35.18% of cases. All participants received 4 L of polyethylene glycol or sodium picosulfate in a split-dose regimen. Of the 54 patients included, 30 patients (55.5%) followed the diet instructions. Twenty five patients followed the low fiber diet for 5 days, 5 patients for 3 days and 24 for less than 3 days. The mean Boston score was 6/9. Inadequate bowel preparation was 42.6%. The difference in mean Boston score between the 2 groups: Low Fiber diet respected for at least 3 days or not was significant (p = 0.009). Participants in both groups were similar in baseline characteristics.

Conclusions According to our study, in consideration of high impact but low compliance of diet restrictions, diet education should be emphasized more and we propose a diet of 3 days in Mediterranean regions.

eP097  RISK FACTORS PREDICTIVE OF POSITIVE FINDINGS AT COLONOSCOPY

Authors  Benhamdane A.1, Sair A.1, Touibi A.1, Addajou T.1, Rokhsi S.1, Mrabti S.1, Berraïda R.1, El Kotti I.1, Rouiba F.1, Benkiran A.1, Seddik H.1
Institute 1 Military Hospital Mohamed V, Gastroenterology II, Rabat, Morocco

Aims The objective of our study is to evaluate the pertinence of indication of a pathological colonoscopy and its associated factors.

Methods A retrospective descriptive and analytical study was conducted during January 2018 to August 2021, including all patients who underwent colonoscopy. Patients with chronic inflammatory bowel disease (IBD) were excluded from our study.

Results The study included 1518 colonoscopies. Among them, 655 (44.6 %) were pathological. The mean age was 57.6 ± 14.98 years (12 to 92 years). The sex ratio (M/F) was 1.59.
Aims Adequacy of bowel preparation for colonoscopy is critical for maximizing the therapeutic benefits of colonoscopy. High-quality cleansing has been shown to improve adenoma detection rates for individual patients. This analysis aimed to use optimized regression models to elucidate predictors of both adequate and high-quality colon cleansing success. Methods A pooled post hoc analysis of two published phase 3 trials was conducted; included in the study were adults randomly assigned to receive the 1L polyethylene glycol (PEG)-based bowel prep NER1006, oral sulfate solution, or 2L PEG plus ascorbate solution, administered as an evening/morning split-dose regimen (1,2). The Boston Bowel Preparation Scale was used to define overall adequate colon cleansing success (total score ≥6, with a score ≥2 in each of 3 colonic segments) and overall high-quality colon cleansing success (total score 7-9, with a score of ≥2 for each segment). Multivariate logistic regression was performed, and odds ratios with 95% confidence intervals were determined.

Results The overall population included 1018 patients (50.3% male; NER1006 treatment, n = 510; comparator, n = 508). Four variables were significantly associated with the achievement of overall adequate cleansing success: age, time lapse, participation in the NOCT trial, and NER1006 use. Two variables were significantly associated with achievement of overall high-quality colon cleansing success: time lapse and NER1006 use (Table 1).

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Linear Regression and Odds Ratio Analysis to Identify Variables Impacting High-Quality Colon Cleansing Success</th>
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<tr>
<td><strong>Dependent Variable</strong></td>
<td><strong>Regression Coefficient (SE)</strong></td>
</tr>
<tr>
<td>NER1006 use</td>
<td>0.28 (0.14)</td>
</tr>
<tr>
<td>Time lapse, h</td>
<td>-0.09 (0.04)</td>
</tr>
</tbody>
</table>

* Boston Bowel Preparation Scale total score ≥6, with score ≥2 in each of 3 colonic segments. OR = odds ratio.

Conclusions NER1006 was the only independent, positive predictor of both adequate and high-quality colon cleansing success in patients undergoing colonoscopy.

References
eP100  BLEEDING RISK AFTER ENDOSONOGRAPHIC (EUS)-GUIDED PUNCTURE ACCORDING TO USE OF ANTITHROMBOTIC AND ANTICOAGULANT AGENTS

Authors  Bota S.1, Razpotnik M.1, Kutilek M.2, Urak C.1, Esler G.1, Weber-Eibel J.1,2, Maieron A.2, Peck-Radosavljevic M.1

Institutes  1 Klinikum Klagenfurt am Wörthersee, Department of Internal Medicine and Gastroenterology (IMUG), Hepatology, Endocrinology, Rheumatology and Nephrology and Emergency Medicine (ZAE) with Centralized Endoscopy Service, Klagenfurt, Austria; 2 University Hospital St. Pölten, Internal Medicine 2, St. Pölten, Austria


Aims  To compare the bleeding rate after EUS fine-needle aspiration (FNA) or biopsy (FNB) in different tumors according to the use of antithrombotic and anticoagulant agents.

Methods  Our bicentric retrospective study included EUS-FNA/FNBs performed between 01/2016-10/2021 in Klagenfurt and 11/2018-04/2021 in St. Pölten. Minor bleeding was defined as an event with a duration of more than one minute, no need for intervention, a large coagulum on the puncture site, or a decrease in hemoglobin ≥ 1.5 g/dL (but less than ≤ 2 g/dL). Major bleeding was defined as a reduction in hemoglobin level ≥ 2 g/dL, need of a transfusion, or interventional hemostasis. According to newly updated ESGE guidelines, acetylsalicylic acid can be continued in the case of EUS-FNA/FNB, while clopidogrel should be discontinued seven days for procedure, warfarin five days, and DOACs three days before the intervention. Medication discontinued fewer days than recommended was classified as “ongoing”.

Results  618 EUS-FNA/FNB were assessed (Klagenfurt – 423 and St. Pölten – 195). FNB was performed in 47.4% of cases. EUS-FNA/FNB was performed for the following indications: solid pancreatic masses – 53.1%, pancreatic cysts – 21.1%, subepithelial gastrointestinal tumors – 12.1%, and other indications – 13.7%. Bleeding occurred in 41 cases (6.6%): 3 cases with major bleeding (0.5%) – immediate endoscopic treated without hemodynamic instability, and 6.1% minor bleedings. The use of antithrombotic and anticoagulants was not associated with an increased bleeding risk regardless of the tumor type or use of FNB needles (Table 1).

Conclusions  The bleeding risk after EUS-FNA/FNB was similar in patients with or without antithrombotic and anticoagulant agents.

<table>
<thead>
<tr>
<th>Table 1</th>
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<tr>
<td>All patients with antithrombotic and anticoagulant medication (n = 161)</td>
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<tr>
<td>---------------------------------</td>
</tr>
<tr>
<td>Overall bleeding rate</td>
</tr>
<tr>
<td>Solid pancreatic tumors</td>
</tr>
<tr>
<td>Pancreatic cysts</td>
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<td>FNB needle</td>
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eP101  EVALUATION OF COLONOSCOPY SATISFACTION AND SAFETY INDICATORS WITH THE COLONOSCOPY SATISFACTION AND SAFETY QUESTIONNAIRE BASED ON PATIENT EXPERIENCE (CSSQP)

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Aims  Recommendations for improving the quality of colonoscopy include collecting data on patient experience with validated questionnaires. The Colonoscopy Satisfaction and Safety Questionnaire based on Patient experience (CSSQP) was recently developed and validated within the Spanish Bowel Cancer Screening Program. The present multicenter study aimed to apply the CSSQP to identify factors related to patient experiences, including all the indication for colonoscopy.

Methods  This prospective multicenter study included 2200 consecutive patients that had undergone a colonoscopy between February 2019 and June 2020 in nine Spanish hospitals. Patients completed the CSSQP after the colonoscopy. Factors related to patient experiences were analyzed.

Results  Of 2200 patients, 1753 filled out the questionnaire (response rate 79.7 %, sample error 2 %). Patients were more likely to respond when the indication for colonoscopy was a positive fecal immunochemical test result (P < 0.001). Women were less likely to be satisfied than men (OR: 0.77, 95 % CI: 0.62-0.94). In addition, patients whose colonoscopy indication was a primary colorectal cancer screening (OR: 1.68, 95 % CI: 1.15-2.44 p = 0.007) reported higher overall satisfaction than patients whose colonoscopy indication was gastrointestinal symptoms. Significant differences were observed in the majority of CSSQP items between centers. Safety incidents were reported by 35 (1.6 %) patients, and 176 (8 %) patients reported that they received insufficient information.

Conclusions  Overall, the colonoscopy experience was positive. The CSSQP can be applied for all colonoscopy indications. A comparison of the different centers indicated significant variability in patient satisfaction.
While informed consent is a requirement for all invasive procedures such as those in gastrointestinal endoscopy, its standardization is a challenge. Recently, our national digestive endoscopy society developed proposals for informed consent forms and information leaflets for esophagogastroduodenoscopy and colonoscopy. The main objective was to evaluate if patients read and understood these documents.

Methods Adult patients proposed for elective esophagogastroduodenoscopy and colonoscopy and who were able to give their informed consent were included. Informed consent forms and information leaflets were sent to patients, with a small text instruction added to the body of the informed consent form. Prior to endoscopy it was assessed whether patients adequately read the informed consent form, based on 3 criteria: patient signature, table questionnaire completion and performance of the text instruction.

Results In total, 184 patients were included: 80 women and 104 men with a mean age of 63.6 ± 12.4 years. Most had only basic education (77.2 %) and had previously undergone an endoscopy (91.8 %). 157 patients stated they had read the form (85.3 %), while 27 (14.7 %) did not. While most signed the form (141, 76.6 %), only 46 patients (25.0 %) met all 3 criteria for adequate reading and comprehension.

No statistically significant association between informed consent form adequate reading and any of the assessed variables was found.

Conclusions Most patients do not adequately read informed consent forms. Infographic strategies can direct patients’ attention and may improve these results, but they are no substitute of an effective doctor-patient relationship in obtaining informed consent.

A 68-year-old woman presented with chronic diarrhea, mild abdominal pain, weight loss, skin pigmentation (palms and face), brittle nails, dysgeusia and hypoalbuminemia. One month earlier she was infected with COVID-19 presenting with gastrointestinal symptoms and low grade fever. Upper GI endoscopy showed multiple large inflammatory polyps in the stomach and mucosal edema and villous blunting in the duodenum. Similarly, colonoscopy showed multiple polypoid lesions and petechiae throughout the colon, while VCE showed hemorrhagic polyps in the stomach and multiple inflammatory polyps in the duodenum and colon.

Conclusions This case of Cronkhite-Canada syndrome (CCS) highlights the importance of early detection and management of such conditions, especially in the COVID-19 era. Proper diagnosis and timely treatment are essential to prevent complications and improve patient outcomes.

Aims Recurrence of upper gastrointestinal bleeding is a common issue in clinical practice, and the Rockall score is an important tool in predicting hemorrhagic recurrence. This study aimed to evaluate the reliability of the Rockall score in predicting hemorrhagic recurrence in patients with upper gastrointestinal bleeding.

Methods A retrospective study was conducted in a tertiary care hospital over a period of one year from July 2020 to November 2021. The study included 100 patients with upper gastrointestinal bleeding, with a mean Rockall score of 4.30 ± 1.71 and a median of 4.00. The patients were divided into two groups: group 2 who had recurrence and group 1 who did not. The predictive factors for hemorrhagic recurrence were assessed using the Rockall score.

Conclusions Recurrence of upper gastrointestinal bleeding was frequent in this study, with a higher recurrence rate in group 2 (56.0 %) compared to group 1 (28.0 %). The Rockall score was found to be a reliable predictor of hemorrhagic recurrence, with a sensitivity of 72.7 % and a specificity of 86.6 %.

Aims The British Society of Gastroenterology (BSG) has developed quality standards for endoscopy including photo-documentation of anatomical sites during gastroscopy. These standards have been established to improve early cancer recognition. The study aims to evaluate the Rockall score in predicting hemorrhagic recurrence in patients with upper gastrointestinal bleeding.

Methods A retrospective study was conducted in a tertiary care hospital over a period of one year from July 2020 to November 2021. The study included 100 patients with upper gastrointestinal bleeding, with a mean Rockall score of 4.30 ± 1.71 and a median of 4.00. The patients were divided into two groups: group 2 who had recurrence and group 1 who did not. The predictive factors for hemorrhagic recurrence were assessed using the Rockall score.

Conclusions Recurrence of upper gastrointestinal bleeding was frequent in this study, with a higher recurrence rate in group 2 (56.0 %) compared to group 1 (28.0 %). The Rockall score was found to be a reliable predictor of hemorrhagic recurrence, with a sensitivity of 72.7 % and a specificity of 86.6 %.
Conclusions Results showed a significant improvement over the years in the use of the pre-gastroscopy drink prior to diagnostic OGD and a trend in improvement in photo-documentation of the recommended anatomical sites. These improvements can be attributed to ongoing departmental education, as well as the use of visual prompts in the endoscopy unit.

eP106 THE ECONOMIC IMPACT OF THE REDUCTION IN THE NUMBER OF COLONOSCOPIES PERFORMED IN BRAZIL DURING THE COVID-19 PANDEMIC

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Aims During the COVID-19 pandemic, health systems can become overwhelmed and the lack of resources is a special concern in low- and middle-income countries. The number of colonoscopies performed may be reduced by the health system oversaturation and its financial resources can be redistributed to other areas. The aim of this study was to evaluate the number of colonoscopies performed in Brazil during the COVID-19 pandemic and its economic impact.

Methods Observational study which compared the number of colonoscopies performed in the Brazilian National Health System in the years 2019 and 2020 and evaluated its economic impact. Data were obtained using the national database (DATASUS – Department of Informatics of the Unified Health System).

Results Monetary values were converted from Brazilian Reais to United States Dollar (5.54 Reais = 1$). Pearson’s chi-squared test was performed and p < 0.05 was considered statistically significant.

Results During this time period, there was a total of 586,781 colonoscopies performed in the Brazilian National Health System, being 347,159 (59.2%) in 2019 and 239,622 (40.8%) in 2020. From 2019 to 2020, there was a reduction of 18.4% in the number of colonoscopies performed in Brazil during the COVID-19 pandemic.

Conclusions From 2019 to 2020, there was a significant reduction in the number of colonoscopies performed and in the money expended on the procedure in Brazil. This finding may be related to the health system oversaturation by the COVID-19 pandemic.

eP107 ANALYSIS OF THE NUMBER OF ENDOSCOPIC ESOPHAGEAL DILATIONS PERFORMED IN BRAZIL DURING THE COVID-19 PANDEMIC

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Aims Considering the high transmissibility of COVID-19, health systems can become overwhelmed and the lack of resources is a major concern in low- and middle-income countries including Brazil. Endoscopic esophageal dilation is a procedure performed for symptomatic relief of esophageal strictures and may be impacted by the health system oversaturation due to COVID-19. The aim of this study was to evaluate the number of esophageal dilations performed in Brazil during the COVID-19 pandemic.

Methods Observational study which compared the number of esophageal dilations performed in the Brazilian National Health System in the years 2019 and 2020. The number of esophageal dilations performed was evaluated using the national database (DATASUS – Department of Informatics of the Unified Health System). Pearson’s chi-squared test was performed and p < 0.05 was considered statistically significant.

Results During this time period, there was a total of 15,473 endoscopic esophageal dilations performed in the Brazilian National Health System, being 8,909 (57.6%) in 2019 and 6,564 (42.4%) in 2020. From 2019 to 2020, there was a reduction of 26.3% in the number of esophageal dilations performed in Brazil (p < 0.001).

Conclusions There was a significant reduction in the number of esophageal dilations performed in the Brazilian National Health System from 2019 to 2020. This finding may be related to the health system oversaturation by the COVID-19 pandemic.

eP108 REDUCTION IN THE NUMBER OF ENDOCOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHIES PERFORMED IN BRAZIL DURING THE COVID-19 PANDEMIC

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Aims Considering the high transmissibility of COVID-19, health systems can become overwhelmed and the lack of resources is a major concern in low- and middle-income countries including Brazil. The number of endoscopic retrograde cholangiopancreatoographies (ERCPs) performed may be impacted by the health system oversaturation due to COVID-19. The aim of this study was to evaluate the number of ERCPs performed in Brazil during the COVID-19 pandemic.

Methods Observational study which compared the number of ERCPs performed in the Brazilian National Health System in the years 2019 and 2020. The number of ERCPs was evaluated using the national database (DATASUS – Department of Informatics of the Unified Health System).

Results During this time period, there was a total of 16,647 ERCPs performed in the Brazilian National Health System, being 10,342 (62.1%) in 2019 and 6,305 (37.9%) in 2020. From 2019 to 2020, there was a reduction of approximately 39% in the number of ERCPs performed in Brazil (p < 0.001).

Conclusions There was a significant reduction in the number of ERCPs performed in the Brazilian National Health System from 2019 to 2020. This finding may be related to the health system oversaturation by the COVID-19 pandemic.

eP109 COLORECTAL CANCER SCREENING INTERRUPTION DURING COVID-19: EXPERIENCE FROM AN ITALIAN ENDOSCOPY CENTRE

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Aims The ongoing pandemic has resulted in profound disruptions of various aspects of healthcare. During the emergency phase of COVID-19, the fecal immunochemical test (FIT) of the Colorectal Cancer Screening (CRCS) program has been interrupted in Italy, raising concerns of increased delays in colorectal cancer detection rates.

Methods We carried out a retrospective study to compare data of the CRCS colorectaloscopies of the pandemic period (March 2020-2021) with those of the same period of 2019-2020. The cumulative delay and the estimate of the fewer identified malignant and pre-malignant lesions were calculated. The ‘standard months’ of delay, namely the number of months that would be needed to catch up the cumulative delay if endoscopy volumes were similar to the pre-pandemic period, was also assessed.

Results The cumulative delay assessed during the pandemic period was 440 colorectaloscopies (56.4%, 344 vs 784). The estimate of the fewer identified malignant and pre-malignant lesions was 0.48 (IC 95% 0.44-0.57) and 2.5 (IC 95% 2.3-2.6), respectively. The standard months of delay were 6.7. Being aware of these data, our Endoscopy Unit has approved a plan focused on staff recruit-
Aims Adequate bowel preparation is essential for successful, high-quality colonoscopy. Inadequate preparation for colonoscopy can necessitate repeat procedures or alternative investigations such as CT colonography. Inpatient status is one of a number of factors associated with poor preparation. The aim was to examine the cost associated with the need for repeat colonoscopy or CT colon in those patients with inadequate preparation on index colonoscopy.

Methods The bowel preparation quality for patients who underwent full colonoscopy over an 18-month period was determined using Endoraad. Inadequate preparation for colonoscopy is defined as either “poor” or “failed due to poor prep”. Electronic patient records were used to determine if further investigations were required on the basis of the initial colonoscopy result.

Results 3,665 full colonoscopies were performed from January 2020 to June 2021, 161 (4.5 %) were inpatient procedures. 28.5 % of inpatient colonoscopies had inadequate preparation compared to 12.1 % of outpatient procedures. Of those with inadequate preparation 49 patients underwent CT colon and 139 had repeat full colonoscopy. Based on a unit cost of €550 per CT colon and €818 per colonoscopy the total cost of repeat investigations was estimated to be €140,652.

Conclusions The cost of poor preparation for colonoscopy was a striking €140,652 over an 18 month period. Inpatients had nearly double the rate of inadequate preparation compared to outpatients, supporting the policy that colonoscopy should be done in an outpatient setting where possible. Interventions such as patient education and adequate pre-assessment could be used to attempt to decrease the rate of poor preparation.
single 89 and double 4 (Table 1). 149 (18.7 %) patients developed 159 AEs; single 141, double 6 and triple in 2; Mild: Moderate: Severe: 74:47:14. They were: Cholangitis 42(5.3 %); Pain, not pancreatitis/perforation 31 (3.9 %); Post-ERCP Pancreatitis[PEP] 25 (3.2 %); Perforation 12 (1.5 %); Bleed 12 (1.5 %); Cholecystitis 15 (1.9 %). Others 292 (2.5 %). 7 AEs between 14-30d time-frame, 2 (2.6 %) with AE died (Cholangitis 1; PEP 2; perforation 2; Sudden Cardiac Death[SCD] 1; suspected air-embolism 1; Bleed 1; Infected WON 1; Unknown 1).

## Table 1

<table>
<thead>
<tr>
<th>Intra-procedure</th>
<th>Post-procedure, i.e., ≤14 days</th>
<th>Late, i.e., &gt;14 days</th>
<th>Adjunct Therapy received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain (N = 39)</td>
<td>1</td>
<td>36</td>
<td>2</td>
</tr>
<tr>
<td>Bleed (N = 35)</td>
<td>35</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hypoxia (N = 10)</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Others (N = 13)</td>
<td>1</td>
<td>12</td>
<td>0</td>
</tr>
</tbody>
</table>

Conclusions:  Post-ERCP AE profile may vary according to geography. CTRI[2019]01/017161.

eP113 EVALUATION OF THE EFFECT OF GASTRIC TARGETED BIOPSY SAMPLING WITH I-SCAN OE TECHNOLOGY ON THE DIAGNOSTIC YIELD OF THE CLO TEST OF H. PYLORI INFECTION

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**DOI** 10.1055/s-0042-1749466

**Aims** to determine if the diagnostic yield of the CLO test could be improved by using endoscopic I-scan OE technology for targeted gastric biopsy sampling

**Methods** A prospective study recruited 112 Adult patients with active H.pylori infection diagnosed by UBT and/or histology. The patients underwent a careful examination by non-magifying upper-endoscopy and I-scan OE 3 moods, then randomly allocated into group A: no-targeted random double biopsies from the antrum and mid corpus, group B: I-scan OE directed targeted biopsy from abnormal mucosal patterns, the biopsy specimens were inoculated into CLO test kits. The reading time of the positive results was at 1, 4 and 24 hours.

**Results** Group B had a 92.8 % positive CLO test compared to 89.3 in group A (p = 0.006). One-hour CLO test was positive in 78.5 % of the patients in group B compared to 60.7 % in group A (p > 0.05), while group A had a significantly more positive CLO test at 24 hours.

**Conclusions:** Sampling a targeted gastric biopsy with the aid of I-scan OE for CLO test hastens significantly the reading time with a high total test sensitivity

eP114 COMPARATIVE STUDY ON THE SAFETY OF NON-ANESTHESIOLOGIST ADMINISTERED PROPOFOL SEDATION IN COLORECTAL CANCER SCREENING COLONOSCOPY

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**DOI** 10.1055/s-0042-1749467

**Aims** Non-anesthesiologist administered Propofol (NAAP) sedation in endoscopy has dramatically increased. However, NAAP safety must be assessed for each endoscopic procedure, as their characteristics are not comparable. We aimed to assess the safety of NAAP sedation in screening colonoscopy, a high-quality procedure, of higher complexity than standard colonoscopy.

**Methods** Prospective cohort study comparing midazolam, Propofol and combined sedation in colonoscopy screening performed in 2018 and 2019. We used ASA and Ramsay scales for comorbidities and sedation level. Cardiopulmonary adverse events (CPAE) were defined as systolic blood pressure < 90 mmHg, oxygen saturation < 90 % or arrhythmia.

**Results** We analysed 3200 screening colonoscopies (58.1 % men), ASA-1 51.2 %, ASA-2 39.6 %, ASA-3 49.2 %. Prior to sedation, 63 subjects (2 %) showed cardiopulmonary abnormalities that would have been considered as CPAE (0.3 %hypotension, 0.2 % hypoxia, 1.5 % bradycardia). Midazolam was used in 569 (17.8 %), 1108 Propofol (34.6 %) and 1525 combined (47.6 %). Midazolam group showed higher opioid doses and lower Ramsay scores (p = 0.000), 227 CPAEs were registered in 205 colonoscopies (6.4 %); hypotension (3.5 %), hypoxia (1.4 %), arrhythmia (2.2 %). Midazolam sedation group showed fewer CPAE (p = 0.000). Propofol group showed more hypotension and bradycardia than combined (p = 0.000). All CPAE were mild and resolved satisfactorily with simple manoeuvres (Table 1). Logistic regression model associated probability of no CPAE with midazolam sedation (p = 0.000) and a short duration of colonoscopy (p = 0.006).

**Table 1**

<table>
<thead>
<tr>
<th>Hypotension TAS &lt; 90mmHg N = 111</th>
<th>No intervention 15 (13.5 %)</th>
<th>Saline solution 73 (65.7 %)</th>
<th>Perfusion decrease 17 (15.3 %)</th>
<th>Both 6 (5.4 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypoxia Sat &lt; 90% N = 46</td>
<td>No intervention 0</td>
<td>Chin-Forehead manoeuvre 37 (80.4 %)</td>
<td>Perfusion decrease 8 (17.4 %)</td>
<td>Both 4 (2.2 %)</td>
</tr>
<tr>
<td>Bradicardia FC &lt; 50-lpm N = 70</td>
<td>No intervention 49 (70 %)</td>
<td>Atropine 4 (5.7 %)</td>
<td>Perfusion decrease 17 (24.3 %)</td>
<td>Both 0</td>
</tr>
</tbody>
</table>

Conclusions: The development of CPAE in screening colonoscopy seems to be associated with Propofol sedation and long duration procedures. CPAE severity is mild, and in most cases endoscopic team management can be considered satisfactory.

eP115 OUTCOMES AND RISK FACTORS ASSOCIATED WITH GASTROINTESTINAL BLEEDING AMONG PATIENTS WITH SEVERE COVID-19

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**Aims** The coronavirus disease 2019 (COVID-19) caused by the novel coronavirus (SARS-CoV-2), most commonly associated with being a respiratory illness may manifest with multi-organ involvement, including the gastrointestinal (GI) system. Given the ongoing pandemic, there is an urgent need to understand the impact of GIB among a population of patients with COVID-19. Therefore,
we sought to evaluate patients with severe COVID-19 and assess outcomes and risk factors associated with GIB.

**Methods** This was a single-center cohort study of a quaternary hospital in São Paulo, Brazil. Following the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement, we retrospectively analyzed a cohort of hospitalized patients with severe COVID-19 who were admitted to the ICU from March 2020 to May 2021. Comparison of demographics, symptoms, laboratory data, and clinical outcomes were compared between GIB vs non-GIB groups. Multivariable regression analyses were performed to evaluate risk factors related to GIB and critical care outcomes, including in-hospital mortality.

**Results** A total of 285 critically ill patients with COVID-19 were evaluated (29.82 % with GIB vs 70.18 % without GIB). Patients with GIB were found to have increased in-hospital mortality (65.88 % vs 37.00 %; p = 0.0001) and length of hospitalization (37.44 ± 30.02 vs 19.88 ± 11.60 days; p < 0.0001). On multivariable regression, obesity was a significant risk factor for GIB (OR 66.09 (95 % CI 3.80-1151.00); p = 0.004) (Table 1).

<table>
<thead>
<tr>
<th>Logistic Regression for Gastrointestinal Bleeding</th>
<th>Odds Ratio</th>
<th>95 % Confidence Interval</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Gender</td>
<td>1.13</td>
<td>0.47 to 2.70</td>
<td>0.780</td>
</tr>
<tr>
<td>Obesity</td>
<td>66.09</td>
<td>3.80 to 1151.00</td>
<td>0.004</td>
</tr>
<tr>
<td>Chronic Kidney Disease</td>
<td>0.47</td>
<td>0.16 to 1.39</td>
<td>0.174</td>
</tr>
<tr>
<td>Gastrointestinal Symptoms</td>
<td>1.49</td>
<td>0.56 to 3.96</td>
<td>0.425</td>
</tr>
</tbody>
</table>

**Conclusions** In conclusion, patients with severe COVID-19 and GIB had a significantly longer duration of hospitalization and increased mortality compared to patients without GIB. Notably, obesity was found to vastly increase the risk of GIB.

eP116 DEVELOPMENT AND VALIDATION OF A NOVEL SCORE FOR THE COMPLETENESS OF CAECAL INTUBATION – THE CCIS (COMPLETENESS OF CAECAL INTUBATION SCORE)

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**Aims** 5–10 % of colorectal cancers (CRC) are post-colonoscopy CRC. Potential causes include incomplete caecal visualisation. We created and validated the Completeness of Caecal Intubation Score (CCIS) as a potential new colonoscopy key performance indicator (KPI).

**Methods** The 8-point CCIS was developed by author consensus. CCIS includes determination of the appendiceal orifice (AO), three sides of the tri-radiate fold (TF1-3) and the four outer caecal quadrants (OQ1-4). Endoscopists of varying experience were contacted using a survey to score the same 20 caecal image-sets using CCIS after an instructional video. Accuracy was determined compared to author opinion derived at a consensus meeting. Inter-rater reliability was calculated using the interclass correlation coefficient (ICC).

**Results** 79 endoscopists completed the survey. 69.6 % were independently practising.

CCIS was significantly higher in the images that were classified as completely visualised during first-impression evaluation (8/8 (IQR 0) vs 4/8 (IQR 4), p < 0.001) and had a strongly positive correlation with the subjective stated percentage of the caecum visualised (correlation coefficient 0.83, p < 0.001).

The overall accuracy of CCIS as compared to author-consensus was 82.3 % (95 % confidence interval (95 % CI) 81.7-83.0 %). The overall inter-rater agreement for CCIS was moderate 0.53 (95 % CI 0.39-0.71). When considering exactly which caecal areas were visualised, accuracy was lower – 69.1 % (95 % CI 68.3-70.0 %).

**Conclusions** Endoscopists of varying experience accurately determined CCIS with high accuracy and moderate inter-rater agreement. This score has the potential to be used as a retrospective key performance indicator and driver of best practice in colonoscopy.

eP117 SMALL BOWEL EXPLORATION WITH CAPSULE ENDOSCOPY, DOES THE INDICATION FIT THE CLINICAL PRACTICE GUIDELINES?

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**Institute** 1 Hospital Universitario Clínico San Cecilio, Granada, Spain

**Methods** A retrospective descriptive study of the last 50 procedures with capsule endoscopy carried out in our hospital.

**Results** The indication for capsule endoscopy was anemia in 35 patients (74 %), obscure gastrointestinal bleeding (OGIB) 10 (20 %), suspicion of Crohn’s disease 4 (8 %), and polyposis syndromes 1 (2 %).

Of the explorations requested for anemia, 6 of 35 patients (17 %) did not have a complete previous evaluation (medical history including hematological and gynecological evaluation in premenopausal women, response to empirical iron trial, oesophagogastroduodenoscopy, and ileocolonoscopy). Of the patients who had undergone oesophagogastroduodenoscopy, 5 (15 %) had gastric and duodenal biopsies. Of the procedures requested for OGIB, all were performed during the bleeding episode, finding the cause of bleeding in 80 %.

**Conclusions**

1. It is important a full evaluation before indicating a capsule endoscopy due to iron-deficiency anemia. In our series, gastric and duodenal biopsies were only taken in 15 % of patients.
2. The capsule performed during the bleeding episode increases its diagnostic usefulness. In our series, lesions that justify the bleeding were found in 80% of patients.

3. In our center, the capsule endoscopy is underused in patients with Crohn’s disease and it is a fundamental procedure for the complete evaluation of these patients.

4. It is important that the indications for capsule endoscopy fit the clinical practice guidelines to increase its benefit, reduce costs and prevent unnecessary examinations with potential risk of complications.

eP118  INTESTINAL PREPARATION FOR CAPSULE ENDOSCOPY, DOES IT IMPROVE WITH SIMETHICONE?

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Aims  To evaluate if simethicone improves the intestinal preparation for capsule endoscopy.

Methods  A prospective descriptive study. Review of 30 procedures. In 15 the preparation was only 8-hour fast. In another 15 the patients also received 100mg of oral simethicone. Solid intake is restarted after 4 hours. The preparation is categorized as adequate or inadequate according to the adequacy assessment of Brotz.

Results  Of the 15 patients in whom the preparation was only fasting, in seven (47%) it was inadequate due to detritus and sparkling content. In the five patients taking oral iron, the cleansing was adequate. Of the 15 that received simethicone, in nine (60%) the preparation was inadequate due to detritus, but foam was not objectified in any. Of these nine patients, one did not respect 4-hour fast after capsule ingestion and another had gastroparesis. Six patients were taking iron, and only two (33%) had adequate cleansing.

Conclusions  1. There are no standardized scales that assess the adequacy of bowel cleansing, so its evaluation is based on subjective judgments.

2. Simethicone has a positive impact on the small bowel cleansing and decreases the presence of bubbles and foam, as subjectively described in our series.

3. Despite the simethicone, 60% of patients have subjectively inadequate preparation. Stopping treatment with iron, optimizing the diet the previous day and longer fasting after capsule ingestion (7 hours for solids) could improve it.

4. Further studies are needed to assess the indication of purgatives, the doses, and the time for their intake.

eP119  DOES ARTIFICIAL INTELLIGENCE ASSIST ENDOSCOPISTS TO EASIER DIAGNOSE GASTRIC PRECANCEROUS LESIONS AND HELICOBACTER-PYLORI INFECTION? A SYSTEMATIC-REVIEW AND META-ANALYSIS

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Aims  The endoscopic diagnosis of Helicobacter-pylori (Hp) infection and gastric precancerous lesions (GPL), namely atrophic gastritis and intestinal metaplasia, remains still challenging. Artificial intelligence (AI) may represent a powerful resource for endoscopists, making the endoscopic recognition of these conditions easier. Our study aimed to explore the diagnostic-performance of AI in the endoscopic diagnosis of GPL and Hp infection using AI processed endoscopic images.

Methods  A systematic-review of literature, according to PRISMA, was performed searching core databases up to September-2021. Inclusion criteria were studies on the diagnostic-performance of AI-system in the diagnosis of GPL and Hp infection. A meta-analysis was performed on the pooled diagnostic accuracy of all included studies.

Results  Overall, 128 studies were found, and four (patients, n = 1891) and nine (patients, n = 2430) studies exploring AI-system outcomes in GPL and Hp infection, respectively, were finally included. The pooled-accuracy (random effects model) was 89.1% [95% CI 85.7-92.1] and 79.64% [95% CI 66.7-90.0] for detecting GPL and Hp infection, respectively. Heterogeneity among studies, for both GPL and Hp infection, was significant [I² = 69.9% (95% CI 13.6-89.5); I² = 97.9% (97.2-98.5), respectively]. The Begg’s-test was significant (p = 0.0371), indicating publication-bias among studies on the diagnosis of Hp infection, but not in those on GPL. Considering only those studies which used CNN-model (n = 5 studies) for the diagnosis of Hp infection, the pooled-accuracy (random effects model) did not substantially change: 74.1% [95% CI 51.6-91.4]; I² = 98.9% [95% CI 98.5-99.3]. Begg’s-test (p = 0.1416).

Conclusions  AI-system seems to be a good resource to easier diagnose GPL and Hp infection showing a pooled diagnostic accuracy of 90% and 80%, respectively. Considering the high heterogeneity between studies, these promising data need external-validation by randomized-control-trials and prospective real-time studies.

eP120  SMALL BOWEL CAPSULE ENDOSCOPY IN OBSCURE GASTROINTESTINAL BLEEDING: A MATCHED COHORT COMPARISON OF PATIENTS WITH NORMAL VS SURGICALLY-ALTERED GASTRIC ANATOMY

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Aims  Little is known about small bowel capsule endoscopy (SBCE) outcomes in patients with surgically altered anatomy. We aimed to assess the feasibility and diagnostic yield of orally-ingested SBCE to investigate obscure gastrointestinal bleeding (OGIB) in patients with surgically altered gastric anatomy, compared to native gastric anatomy.

Methods  207 patients with OGIB were selected from an open, multicenter, retrospective cohort (SAGA study) and match-paired according to age, gender and bleeding type (overt/occult) to 207 control patients from a randomized controlled trial (PREP INTEST).

Primary outcomes were the diagnostic yield (P1 or P2 findings), completion rate (CR), adverse events rate (AER), and small bowel transit time (SBTT).

Results  The diagnostic yield was not statistically different between groups (44.9% in SAGA vs 42.5% in control patients). Inflammatory and ulcerated lesions were significantly more frequent in patients with SAGA (43.0% vs 29.3%). The median SBTT was significantly longer in the
A low cost Jetson Xavier NX microsystem from NVIDIA was used and it was retrained on our microsystem to detect entities pertaining to the selected anatomy SAGA group than in control patients (283 vs 206 minutes), with a significantly lower CR (82.6 % vs 89.9 %); Adverse events were scarce (0.2 %).

### Table 1

<table>
<thead>
<tr>
<th></th>
<th>Surgically altered gastric anatomy SAGA cohort (n = 207)</th>
<th>Normal gastric anatomy PREPRINTEST control patients (n = 207)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1 or P2 lesions, n (%)</td>
<td>93 (44.9 %)</td>
<td>88 (42.5 %)</td>
<td>0.24</td>
</tr>
<tr>
<td>SB transit time, median [IQR]</td>
<td>283 min [230 ; 378]</td>
<td>206 min [87 ; 254]</td>
<td>&lt;0.00001</td>
</tr>
<tr>
<td>Complete SB examination, n (%)</td>
<td>171 (82.6 %)</td>
<td>186 (89.9 %)</td>
<td>0.03</td>
</tr>
<tr>
<td>Adverse events, n (%)</td>
<td>1 (0.5 %)</td>
<td>0 (0.0 %)</td>
<td>&gt;0.99</td>
</tr>
</tbody>
</table>

Conclusions Patients with surgically altered gastric anatomy should benefit from SBCE investigation for OGIB as much as non-operated patients.

**eP121 LOW COST REAL-TIME COLONOSCOPY PROCESSING WITH DEEP LEARNING**

**Authors** Drug V.1, Ciobanu A.2, Luca M.2, Vulpoi R.1, Olteanu A.1, Barboi O.1

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**DOI** 10.1055/s-0042-1744974

**Aims** Developing a low cost microsystem that can automatically identify in real-time different entities during a colonoscopy. It is based on a pre-trained deep learning neural network retrained on 700 annotated frames. The trained network works on a Jetson Xavier NX microsystem from NVIDIA.

**Methods** Starting with a database of colonoscopies, 300,000 frames were extracted. After several selections we ended up with 70 images for each of the 10 classes: sessile and pedunculated polyps, lipoma, diverticulum, bleeding, vascular tissue, water jet, tool head, forceps and snare. These frames were annotated by qualified colonoscopists. A pretrained Mobilenet neural network was retrained on our microsystem to detect entities pertaining to the selected classes. The resulted neural network was exported in the .onnx format.

**Results** On the same microsystem, several video files were processed in real-time and the results were very good for some classes (e.g. bleeding, tool heads) and at least satisfactory for others (e.g. small sessile polyps). One important result is that a Jetson Xavier NX microsystem has the computer power capacity to process real-time colonoscopies, i.e. to detect and mark important entities in frames, and also to save these results as a new video file.

**Conclusions** We developed a microsystem capable of processing in real-time video colonoscopy files. A database of 700 frames was used to retrain a deep learning neural network. Ten classes of entities were detected with good accuracy. A low cost Jetson Xavier NX microsystem from NVIDIA was used and it proved to have enough computer power for this complex task.

**eP122 INCORPORATING ESGE GUIDANCE INTO LIVE ENDOSCOPY EDUCATION – LESSONS FOR THE PERI AND POST-COVID ERA**

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**DOI** 10.1055/s-0042-1744975

**Aims** Live Endoscopy Events (LEEs) are used to disseminate expert practice. However, there is minimal evidence to support the format and learning objectives are rarely explicit. Social distancing has forced a rethink of how LEEs are delivered online and ESGE have published an updated position statement in 2021. Recommendations include the use of pre-recorded cases and publishing learning objectives written with Bloom’s Taxonomy (to describe the cognitive processes by which learners engage with knowledge).

**Methods** We designed a 2-day LEE (London Live Endoscopy) based on the updated position statement. Learning outcomes were constructed using Bloom’s taxonomy and addressed with 54 short, pre-recorded cases and live facilitated discussion with faculty. Delegates were able to ask questions through the host platform (Gastrolearning) and could access cases “on-demand” throughout. Participants were asked to complete a post-course evaluation survey after each session and at the conclusion of the course.

**Results** 1191 delegates registered and 709 accessed the event. There were 12 hepatobiliary, 13 upper and 11 lower gastrointestinal learning outcomes. 83 % of 154 respondents agreed learning outcomes had been achieved. 100 % of 119 delegates found clear description of learning outcomes useful. 94 % of 114 found the pre-recorded format superior to traditional LEEs for achieving learning outcomes.

**Conclusions** This is the first published LEE run in line with ESGE guidance, the recommendations of which are supported by our findings. We have demonstrated participants believe the use of learning objectives using Bloom’s taxonomy and pre-recorded cases with live discussion may be superior to the traditional LEE model.

**eP123 STENFIX OTSC FOR PREVENTING FULLY COVERED SELF-EXPANDABLE METAL STENTS MIGRATION IN THE GASTROINTESTINAL TRACT**

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**DOI** 10.1055/s-0042-1744976

**Aims** To evaluate clinical outcomes of patients treated with Stentfix device.

**Methods** 31 consecutive patients (median age: 58 years; males, 80 %), with diseases of different etiology and localization (upper or lower GIT tract) were enrolled. For each patient, OTSC device was placed to prevent FCSEMS migration. All patients received longitudinal follow-up.

**Results** Technical and clinical success was achieved in all patients. In one patient the distal edge of the stent has turned over as it passed from the duodenal bulb to the gastric body.

**Conclusions** The Stentfix OTSC System appears to be a long term useful and safe device to prevent FCSEMS migration in a variety of clinical scenarios.

**eP124 PRE-ENDOSCOPIC SARS-COV-2 SCREENING IN ASYMPTOMATIC PATIENTS DURING THE FIRST YEAR AFTER RESTARTING ENDOSCOPIC SCREENING: A RETROSPECTIVE STUDY IN A TERTIARY CENTER**

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**DOI** 10.1055/s-0042-1744977
Aims To describe the results of pre-endoscopic screening with Sars-CoV-2 RT-PCR performed in asymptomatic patients scheduled for elective endoscopy in our center in the 2nd, 3rd and 4th epidemic surges.

To analyze the correlation between those tested positive with the epidemiological data published by the Catalonian Health Department (CHD).

Methods We conducted an observational retrospective study of our screening spanning 22/6/2020-20/06/2021. We collected the effective potential growth (EPG, an index measuring outbreak risk) weekly and the cumulative incidence (CI) at 7/14 days. Epidemiological data were collected from the CHD and trended with our results.

Results We performed 5,808 tests yielding 125 positive results (2.15%). The highest positive rate was recorded in January-2021 (9.26 %). All positive results were obtained in weeks considered of high or very high risk (EPG > 100). We found a strong correlation (Rho = 0.796; p < 0.001) between weekly positive rate and EPG. The number of positive results was significantly lower on weeks with EPG < 100 compared with EPG > 100. Taking the EPG value from one and two weeks before to plan the screening, up to 876 tests could be avoided with only one positive result to account.

Conclusions Pre-endoscopic screening identifies a significant number of asymptomatic patients corresponding to more than 9 % in high-risk weeks. Epidemiological data (EPG/7-CI/14-CI) for up to 2 weeks prior show a significant correlation with our screening results. EPG of up to 2 weeks prior identifies the weeks with least risk and could be useful to plan pre-endoscopic screening and adequate material and human resources.

eP125 EFFICACY AND SAFETY OF A 1-LITRE LOW VOLUME PREP IN A BOWEL CANCER SCREENING COHORT

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Aims Adequacy of bowel prep is essential for high quality colonoscopy, for early detection of neoplasia and to reduce adenoma missed rates. Standard prep regimes are difficult to tolerate and patient compliance is poor. A novel low volume (1 l) bowel prep with macrogol 3350, Sodium Ascorbate, Ascorbic acid and electrolytes is now available. We aimed to assess its efficacy and safety.

Methods Data was collected prospectively in a single center between July 2020 and November 2021. A cohort of patients undergoing screening colonoscopy after a positive faecal immunohistochemical test were given 1-litre prep and the proceduralist was blinded. The Boston Bowel Preparation Scale (BBPS) was used to record the quality of bowel prep; score of 6 or more was defined as adequate cleansing. Procedural outcomes were analyzed through electronic medical records.

Results 682 patients, aged 50-75 years, underwent colonoscopy with the novel 1-litre prep. Adequate bowel cleansing was achieved in 663 patients (96 %). Of these, excellent bowel cleansing was achieved in 480 (70 %, BBPS 8-9) and good prep (BBPS 6-7) in 183 patients. No serious adverse effects were reported. Intolerance to prep or minor side effects was reported by less than 5 % of our cohort.

Conclusions Low volume bowel prep is better tolerated and can achieve the efficacy of standard prep regimes. In our cohort of screening colonoscopy patients, a novel 1-litre prep achieved high efficacy and was well tolerated and safe. Furthermore, the majority of patients achieved excellent cleansing.

eP126 FIRST IN VIVO COMPUTER-AIDED DIAGNOSIS OF COLORECTAL POLYPS USING WHITE LIGHT ENDOSCOPY

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Aims Artificial intelligence is currently able to accurately predict the histology of colorectal polyps. However, systems developed to date use complex optical technologies and have not been tested in vivo. The objective of this study was to evaluate the efficacy of a new deep learning-based optical diagnosis system, ATENEA, in a real clinical setting using only high-definition white light endoscopy and to compare its performance with endoscopists.

Methods ATENEA was prospectively tested in real life on consecutive polyps detected in colorectal cancer screening colonoscopies at Hospital Clinic. No images were discarded and only white light endoscopy was used. The in vivo ATENEA’s prediction (adenoma vs non-adenoma) was compared with the prediction of four staff endoscopists without specific training in optical diagnosis for the study purposes. Endoscopists were blind to the ATENEA’s output. Histology was the gold standard.

Results 90 polyps (median size: 5 mm, range: 2–25) were included of which 69 (76.6 %) were adenomas. ATENEA correctly predicted the histology in 63/69 (91.3 %, 95 % CI: 85.4-97.1 %) adenomas and 12/21 (57.1 %, 95 % CI: 46.9-67.3 %) non-adenomas whilst endoscopists in 52/69 (75.3 %, 95 % CI: 66.4-84.2 %) and 20/21 (95.2 %, 95 % CI: 90.8-99.6 %), respectively. The global accuracy was 83.3 % (95 % CI: 75.6-89.9 %) and 80 % (95 % CI: 71.7-88.2 %) for ATENEA and endoscopists, respectively.

Conclusions ATENEA can accurately be used for in vivo characterization of colorectal polyps enabling the endoscopist to make direct decisions. ATENEA showed a similar global accuracy compared to endoscopists despite an unsatisfactory performance for non-adenomatous lesions.

eP127 QUALITY SYSTEM BASED IN ISO 9001:2015 AND THE IMPACT IN THE IMPROVEMENT OF THE INDICATORS IN A GASTROINTESTINAL ENDOSCOPY UNIT

Authors Garrio F.1, Adán L.1, González C.1, Martínez-Alcalá Á.1, Zaera C.1, Villa J.C.1, Buxadères M.L.2, Gimeno M.M.3, Aldêgue M.3, Ponferrada Á.1

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Aims The ISO 900:2015 is a Quality System based in the risk evaluation and the continuous improvement of the organization, but could improve the usual indicators that we have in a Gastrointestinal Endoscopy Unit? Our objective was to evaluate the improvement of some of the most usual indicators in Gastrointestinal Endoscopy in our Unit, after to get the certification ISO 900:2015 in March 2019. From the request of the endoscopy to the post procedure, including endoscope reprocessing, traceability, and the management of the tissue sampling.

Methods A Quality committee was formed in our Unit, with the support of the Quality Unit of our Center, University Hospital Infanta Leonor, Madrid. We
evaluate the indicators prospectively since January 2018, and we have done a
descriptive analysis of our results from January 2018 to December 2020.

Results The Gastrointestinal Endoscopy process was separated in 10 subpro-
cess, and we obtain 25 indicators that are being evaluating continuously.
From those 25 indicators, we have an improvement in 13/25 (52%). That
improvement was significant in the average waiting time (AWT) for the endosco-
py: AWT in days for a gastroscopy from 2018 to 2020 (45.58, 38.84 and 15.67
days respectively). AWT, days for a colonoscopy (136.37, 61.14 and 15.65
respectively).

Conclusions A Quality System based in the ISO 9001:2015 could improve some of
the usual indicators that we have in our Units. In our case, that improvement
was in the 52% of the indicators, particularly in the AWT for a gastroscopy
and colonoscopy, with a decrease of 66% and 88% respectively.

Table 1

<table>
<thead>
<tr>
<th>Some of the 25 Indicators that are being evaluating continuously, * initial certification ISO 900:2015</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average waiting time for gastroscopy (days).</td>
<td>45.58</td>
<td>38.84</td>
<td>15.67</td>
</tr>
<tr>
<td>Average waiting time for colonoscopy (days).</td>
<td>136.37</td>
<td>61.14</td>
<td>15.65</td>
</tr>
<tr>
<td>% Wrong request for sedation with or without Anesthesiologist.</td>
<td>---</td>
<td>4.16</td>
<td>2.46</td>
</tr>
<tr>
<td>Minor traceability incidents.</td>
<td>---</td>
<td>41</td>
<td>21</td>
</tr>
</tbody>
</table>

Conclusions Although the split dose regimen remains the standard, in some
specific setting, the use of the day before late represents an alternative that
guarantees an adequate intestinal cleansing for early morning colonoscopy.

Methods In this ad-interim analysis, 204 patient were equally randomised in
group A to assume both dose of preparation from 8pm to midnight (the day
before late group) and group B in which the second dose was taken 4 hours
before the examination (split dose group). The primary endpoint was to evaluate
bowel cleansing adopting Boston Bowel Preparation Score. Secondary end-
points were the evaluation of compliance and tolerability, safety, Intraluminal
doubles score, polydetection rate.

Results Efficacy measured using Chi-square test showed 83.9% (CI 95% 74.5-
90.9) good or optimal bowel cleansing for patients in group A and 94.3% (CI
95% 87.1-98.1) in group B (p-value 0.029)

Thirteen patient in the group A and 20 in the group B referred fear of inconti-
nence during the journey to the hospital (p-value = 0.165).

Conclusions Although the split dose regimen remains the standard, in some
specific setting, the use of the day before late represents an alternative that
guarantees an adequate intestinal cleansing for early morning colonoscopy.

EP128 Evaluation of 2 Different Regimens of Colon Preparation for an Advanced Cleaning Using a 2Lt PEG-CS with Simethicone: a Randomized, Controlled Study – The Eracles Study

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Aims Although the split dose regimen is recommended as bowel preparation in
patients undergoing colonoscopy, its use in daily practice remains limited.
Conversely, the classic day before regimen account for up to 35% of
inadequate bowel cleansing.

On this context, the Italian Society of Digestive Endoscopy (SIED) promoted a
prospective multicentric randomised study to compare two different regimen
of low volume (PEG/citrate/symeticone) bowel preparation in patient that un-
dergo to early morning colonoscopy.

EP129 Coronavirus Disease Transmission Prevented in an Endoscopy Unit With Universal Protective Measures and No Systematic Preprocedural Testing

Authors Gualbert L.1, Aparicio J.R.1, Medina-Prado L.1, Rodríguez-Díaz J.C.2, Comis M.L.1, Chico-Sánchez P.2, Jover R.1

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Aims During COVID 19 pandemic some societies recommended universal
preprocedure testing for patients scheduled for an endoscopic procedure.
However, some other societies recommended against and considered enough
to maintain strict infection control strategies. Our aim is to evaluate the out-
comes of this strategy in a tertiary endoscopy unit in a COVID-19 high preva-
ience area.

Methods We conducted a retrospective chart review of patients undergoing
denoscopy without preprocedure COVID testing at our center from March 2020
to May 2021. PCR performed in the patients receiving an endoscopy was ana-
lyzed and patients who tested positive 14 days before and 14 days after were
selected. Registry of the endoscopy unit members participating in these pro-
cedures was also analyzed.

Results 10,132 procedures were performed in the unit. Based on PCR tests,
26 patients were infected with SARS-CoV-2 PCR between 14 days before and
14 days after the procedure, and 27 endoscopy procedures were performed. 8
procedures were performed in patients with positive COVID-19 test result, and
19 were performed in patients with unknown carrier status. In 23 (88.5%),
transmission occurred through social or familial contact, and in 3 (11.5%) cas-
es, transmission occurred in the hospital. Four health care workers in the
endoscopy unit became infected during this period with COVID-19 and none of
them were related to the endoscopic procedures performed in patients with
COVID-19.

Conclusions SARS-CoV-2 positive testing in asymptomatic ambulatory pa-
tients is rare and the adequate use of individual protective measures emerges
as the main way to control the spread of COVID-19 infection in endoscopy centers.
eP130  CHARACTERIZATION COMPARISON BETWEEN TWO CAD SYSTEMS (COMBO CAD STUDY) IN REAL-LIFE ENDOSCOPY: AN INTERIM ANALYSIS

**Authors** Hassan C.1, Spadaccini M.1, Alfalone L.1, Da Rio L.1, Solitano V.1, Ferretti S.1, Polletti V.1, Maselli R.1, Carrara S.1, Galteri P.A.1, Pellegrato G.1, Fugazza A.1, Anderloni A.1, Terracciano L.M.1, Spaggiari P.1, Repici A.1

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**DOI** 10.1055/s-0042-1744983

**Aims** Implementation of clinical strategies based on optical diagnosis of < 5 mm rectosigmoid polyps may lead to a substantial saving of economic and financial resources. Artificial intelligence (AI) has the potential to help in making the characterization process more reliable and objective. We compared the performances in rectosigmoid polyp characterization of two recently approved CADx systems (CAD-EYE, CAD A, and GI-Genius, CAD B) working in blue- and white-light.

**Methods** We performed an interim analysis of a prospective observational study (NCT01514149) enrolling all average-risk patients who underwent screening or surveillance colonoscopy from November 2021. All recto-sigmoid diminutive lesions (≤ 5 mm) were included and categorized as adenoma or non-adenoma by the endoscopist using both white-light and chromoendoscopy (BLI) (Endoscopist-alone performance). Then, the output automatically provided by the two AI appeared on different screens (AI-alone performance) in white (B) and blue light (A). The final diagnosis provided by endoscopist combining the results of the first two steps were reported as AI-assisted diagnosis. Concordance and comparison between the AI-alone performance of the two CADx were assessed as primary outcome.

**Results** One-hundred-twenty-five diminutive rectosigmoid polyps (51 adenoma, 40.8% and 74 hyperplastic, 59.2%) were included in the final analysis. The diagnostic sensitivity/specificity/Negative Predictive value of the CAD A was 92.2% / 88.7% / 97.2%, and it was 96.1% / 86.0% / 97.1% for CAD B, respectively. No difference in overall accuracy and NPV between the two systems was found (p value: 0.9). The concordance rate between the systems was 92.1%. The diagnostic accuracy of endoscopist before and after AI-assistance was 91.2% and 92.8%.

**Conclusions** The NPV for rectosigmoid diminutive lesions was higher than the PVI for both of the machines, irrespectively of the need for advanced imaging.

**References**

**Table 1**

<table>
<thead>
<tr>
<th>1L PEG + ASC vs comparators</th>
<th>Median odds ratio</th>
<th>95% confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>1L PEG + ASC 1D vs. 2L PEG + bisacodyl</td>
<td>8.403</td>
<td>4.558</td>
</tr>
<tr>
<td>1L PEG + ASC 1D vs. sodium phosphate</td>
<td>3.053</td>
<td>1.706</td>
</tr>
<tr>
<td>1L PEG + ASC 2D vs. 2L PEG + bisacodyl</td>
<td>10.622</td>
<td>6.129</td>
</tr>
<tr>
<td>1L PEG + ASC 2D vs. sodium phosphate</td>
<td>3.864</td>
<td>2.259</td>
</tr>
</tbody>
</table>

Conclusions 1L PEG + ASC consistently, and reproducibly, achieved HQ cleansing across multiple clinical trials.

**eP131  ASYMMETRICALLY DOSED 1L PEG + ASC DEMONSTRATES HIGH-QUALITY CLEANSING EF-FICACY COMPARED WITH COMPARATOR SOLUTIONS ACROSS CLINICAL TRIALS**

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**Aims** High-quality (HQ) cleansing may be associated with more favourable colonoscopy outcomes, such as improvement in adenoma detection rate, than adequate level cleansing. In randomised trials, 1L polyethylene glycol and ascorbate (asymmetrically dosed PEG + ASC, or ner1006) showed additional efficacy in achieving HQ cleansing compared with 2L PEG + ASC, tri sulphate or sodium picosulphate (1,2). The aim of this study was to indirectly compare the HQ cleansing efficacy of 1L PEG + ASC with comparators including 4L, 2L and lower volume preparations.

**Methods** We conducted a systematic literature search for all reported data on HQ cleansing efficacy of 1L PEG + ASC and comparator solutions. HQ cleansing success was defined as stool-free cleansing of the overall colon using a validated cleansing scale assessed (as in clinical practice) by on-site colonoscopists. Included were the Harefield Cleansing Scale, the Boston Bowel Preparation Scale and the 5-point Aronchick scale. Mixed treatment comparison (MTC) analyses were conducted in a Bayesian framework (with the JAGS sampling algorithm), pooling both direct and indirect evidence from randomised controlled trials. Binary outcomes were analysed as odds ratios using a fixed effects model performed using the surface under the cumulative ranking curve.

**Results** Final MTC analysis included 20 randomised controlled trials, involving 6450 patients. 1L PEG + ASC as morning-only or split dosing achieved HQ cleansing more frequently than 2L PEG + bisacodyl (Table 1).

**Conclusion** 1L PEG + ASC consistently, and reproducibly, achieved HQ cleansing across multiple clinical trials.

**References**

**eP132  CONTRAST MEDIUM INJECTION THROUGH HOT-AXIOS STENT: SMALL TRICK, GREAT SAFETY FOR ENDO SCOPIC ULTRASOUND-GUIDED GASTROENTERO STOMY (PRELIMINARY RESULTS)**

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**DOI** 10.1055/s-0042-1744985

**Aims** Endoscopic ultrasound-guided gastroenterostomy (EUS-GE) is a promising technique for management of gastric outlet obstruction. One of the major challenges regarding this technique is the loss of sonographic visualization when puncturing the gastric and intestinal wall with the electrocautery tip of the Hot-AXIOS-stent. This leads to increased risk of stent misdeployment and thus to complications like perforitis. Injection of contrast medium through the wire-channel of the stent under fluoroscopic control information of the correct position of the stent. This leads to increased risk of stent misdeployment and thus to complications like perforitis. Injection of contrast medium through the wire-channel of the stent. The primary endpoint was to assess the technical success of this technique, secondary endpoint to assess the clinical success.
**Results** A total of 32 patients were included in this study so far. In all procedures, the injection of contrast medium through the stent and hence fluoroscopic position control was possible. The technical success rate was 100% (n = 32). Clinical success was achieved in 90.6% (n = 29). No major or minor complications were encountered during this study.

**Conclusions** Injection of contrast medium through the Hot-AXIOS stent after the puncture to confirm the correct position before deployment is a new and simple technique, making EUS-GE more effective and safe.

**eP133** REAL-TIME COMPUTER-AIDED DIAGNOSIS SYSTEM FOR OPTICAL DIAGNOSIS OF DIMINUTIVE COLORECTAL POLyps INCLUDING SESSILE SERRATED LESIONS: A PROspective, MULTICENTER STUDY WITH BENCHMARKING AGAINST SCREENING ENDOSCOPISTS

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**DOI** 10.1055/s-0042-1744986

**Aims** We aimed to develop and validate a robust computer-aided diagnosis (CAD) system, designed to use in real-time colonoscopy, to improve the accuracy of endoscopic characterization of diminutive polyps, including sessile serrated lesions (SSLS).

**Methods** We developed a CAD system (POLyp Artificial Recognition [POLAR]) to characterize diminutive colorectal polyps during live endoscopy, using a maximum of three non-magnified narrow-band imaging images. For pre-training the Microsoft-COCO dataset with a variety of object images (>300k) was used. For training, the prospectively collected data from 8 hospitals were used (2.637 images from 1,339 polyps). For clinical validation, POLAR was tested during colonoscopies in a fecal immunochemical test (FIT)-screening setting, and compared with the performance of 20 endoscopists from 8 hospitals.

Primary outcome was the accuracy of differentiating neoplastic (i.e. adenomas, SSLs) from non-neoplastic (i.e. hyperplastic polyps) diminutive polyps by POLAR, compared with the accuracy of endoscopists. Histopathology served as reference standard.

**Results** During clinical validation, a total of 429 diminutive polyps detected in 195 FIT-positive patients were included for analysis. POLAR differentiated neoplastic from non-neoplastic lesions with 79% accuracy, 89% sensitivity and 37% specificity, while endoscopists achieved 83% accuracy, 93% sensitivity, and 44% specificity. No significant difference was observed in optical diagnosis accuracy between POLAR and endoscopists (P= .07). Success rate for acquiring a histological prediction by POLAR was 98%.

**Conclusions** We developed, validated, and benchmarked a trustworthy CAD system for optical diagnosis of diminutive polyps during real-time colonoscopy. The system differentiated neoplastic from non-neoplastic diminutive polyps with an accuracy comparable to screening endoscopists, with near-perfect technical efficacy.

**eP134** ‘DIRECT ACCESS’ ENDOSCOPY – CAN WE REDUCE OUTPATIENT BURDEN EVEN FURTHER?

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**DOI** 10.1055/s-0042-1744987

**Aims** ‘Direct access’ endoscopy (DAE) allows patients to be triaged straight to gastroscopy or colonoscopy prior to seeing a specialist in order to facilitate an efficient diagnosis and treatment plan. Concerns remain about DAE contributing to an increase in routine clinic review that follows procedures, and thus adding strain to an already over-burdened outpatient service. We aimed to review the outcomes of patients undergoing DAE, specifically to assess the proportion resulting in avoidable outpatient appointments.

**Methods** Retrospective review using a Decision Report Tool query of all DAE patients at Lakes DHB, which serves a population of around 116,000, between April 2020 and March 2021. DAE outcomes were extracted from reports and reviewed by a single author who categorised the main ‘recommendation’.

**Results** 383 DAE patients (Median age 59 (IQR 44 – 71), 219 Female (57.2 %) included. Distribution of procedures: 258 Gastroscopy (67.4 %), 75 Bi-directional endoscopy (19.6 %), 50 Bi-directional colonoscopy (13.1 %).

7.0 % of all patients undergoing DAE had a single outpatient appointment (25 in-person and 2 telephone) before being discharged to the community.

Conclusions One in five patients undergoing DAE return to clinic after the procedure indicating effectiveness of the initial triaging pathway and post-endoscopy management plans. A third of patients that have follow up are only seen once. Face to face follow ups could be reduced further to 1 in 8 patients by introducing a ‘one stop shop’ review at time of endoscopy and considering remote virtual consultation as an alternative.
**eP135**  APPLICABILITY AND EFFECTIVENESS OF ADVANCED ENDOSCOPIC BALLOON-TYPE IRREVERSIBLE ELECTROPORATION CATHETER ON THE ESOPHAGUS: PRECLINICAL ANIMAL PILOT STUDY


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**DOI**  10.1055/s-0042-1744988

**Aims**  The irreversible electroporation (IRE) is a new destructive technique that removes the undesirable tissue by applying an electric field. Thus, the aim of the present study is to demonstrate the feasibility and applicability of tissue destruction in the esophagus by applying a newly designed endoscopic balloon-type IRE catheter.

**Methods**  The electrical field with temperature generated during ablation at 1500V and 2000V with 40 pulses in the esophagus were simulated using COMSOL Multiphysics. A balloon catheter was manually manipulated into the esophagus through the 0.035-inch jawswireTM. The fluoroscopy with contrast medium was employed to establish deployment. Following ablation of the esophagus sequentially, Interruptions of ablations were recorded. Finally, the TUNEL assay was performed.

**Results**  As a result of COMSOL simulation, it is estimated that the heat, approximately 43°C was observed at the edge of the electrodes, and the other areas of electrodes were normal during ablation at 1500V with 40 pulses. Fluoroscopy and endoscopy showed that the balloon catheter was not adjacent to the heart and blocked the lumen of the esophagus. Balloon-type endoscopic IRE catheter withstood muscle contractions during ablation and delivered all electrical energy. A total of 24 ablations were performed in 6 pigs, and the success rate of balloon catheter was 91.7 % (11/12). TUNEL assay was performed.

**Conclusions**  The IRE balloon-type catheter demonstrated applicability and effectiveness in the esophagus and showed successful ablation results.

**eP136**  ARGON PLASMA COAGULATION: IS IT SAFE WHEN MANAGED AS A HIGH BLEEDING RISK PROCEDURE?

**Authors**  João M.1, Silva A.2, Alves S.1, Lopes S.2, Areia M.1, Brito D.1, Elvas L.1, Saraiva S.1, Nara Figueiredo P.2, Cadime A.T.1

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**DOI**  10.1055/s-0042-1744989

**Aims**  Argon plasma coagulation (APC) is an ablative therapy used for a wide variety of indications throughout the gastrointestinal tract. There are no data on continued use of antithrombotics with respect to the risk of bleeding after APC. Therefore, current ESGE guideline does not provide any guidance in this regard. This study aimed to assess post-procedure bleeding risk and to identify its risk factors.

**Methods**  Multicentre retrospective cohort study including consecutive patients submitted to APC between November/2019 and November/2021. Antithrombotic therapy was managed as a high-risk procedure. Clinically significant post-procedure bleeding: haemoglobin value fall >2g/dl, blood transfusion or unplanned hospital admission.

**Results**  Included 121 procedures in 99 patients [male:67 (67.8 %); median age: 76 (68-80) years]. The main indications for APC were angiodysplasia (62 %) and radiation proctopathy (38 %) and median power used was 35 (25-40) watts. A total of 35 (36 %) patients were under antithrombotic therapy (antiplatelet agents- 17 %; anticoagulants- 19 %). Post-APC bleeding was reported in 5 procedures (4 %). Bleeding was clinically significant in 3 of the 5 cases and was successfully treated in all events with clips with or without adrenaline. In multivariate analysis, risk factors for post-APC bleeding were anticoagulant therapy (OR: 3.5; 95 % CI: 1.1-30) and power >20 watts (OR: 12; 95 % CI: 1.1-99). Antiplatelet agents use was not associated with post-APC bleeding (P = 0.172).

**Conclusions**  Post-APC bleeding was reported in 4 % of cases, being higher for patients under anticoagulant therapy and lower APC power. Our results favour APC classification as a high-risk procedure for bleeding.

**eP137**  THE EFFECT OF ORAL SIMETHIONE IN A BOWEL PREPARATION IN A COLORECTAL CANCER SCREENING COLONOSCOPY SETTING: AN ENDOSCOPE-BLINDED RANDOMIZED CONTROLLED TRIAL INTERIM ANALYSIS

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**DOI**  10.1055/s-0042-1744990

**Aims**  Current ESGE guideline suggests adding oral simethicone to bowel preparation for colonoscopy. However, its effect on quality indicators for screening colonoscopy remains unclear. The primary aim was to assess the rate of adequate bowel preparation regarding bubbles, in split-dose high-volume polyethylene glycol (PEG), with or without simethicone. Secondary aims included adenaoma detection rate (ADR), caecal intubation rate (CIR), intraprocedural use of simethicone and patient’s compliance.

**Methods**  Endoscopist-blinded, randomized controlled trial, included patients scheduled for colonoscopy after a positive faecal immunochemical test. Computer-generated randomization and opaque envelope concealed allocation. Patients randomly assigned to: PEG split-dose (group A) or PEG split-dose plus 500mg oral simethicone (group B). Quality preparation assessed by a bubble scale in 5 segments (0-perfect, 15-worse). Boston Bowel Preparation Scale (BBPS), ADR, CIR, intraprocedural use of simethicone and patient’s compliance were recorded.

**Results**  We included 152 and 110 patients in groups A and B, respectively. Comparing groups A vs BPEG + simethicone, the bubble scale score was significantly lower in group B (2 vs 0, P < 0.01) and also the intraprocedural use of simethicone (33.6 % vs. 8.2 %; P < 0.01). Significant differences between groups were seen regarding adequate bowel preparation rate (92.7 % vs. 96.4 %; P = 0.21), ADR (59.2 % vs. 58.2 %; P = 0.87), CIR (94.7 % vs. 98.3 %; P = 0.15) and patient’s compliance (8 vs 8, P = 0.9).

**Conclusions**  Adding oral simethicone to a split bowel preparation provided better visualization regarding bubbles and less intraprocedural use of simethicone with similar patient compliance but no further improvement in quality of preparation or ADR.

**eP138**  TRANSFERABILITY OF A CONVOLUTIONAL NEURAL NETWORK TO CHARACTERISE COLORECTAL POLyps

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Aim  There is a lack of studies evaluating the transferability of polyp characterisation artificial intelligence systems to different populations from the institution where the training data was collected.

We aimed to train a convolutional neural network (CNN) to characterise colorectal polyps as adenoma and non-adenoma using data from two institutions (UK, Czech Republic) and to assess its transferability to a new patient population (Spain).

Methods  High-quality and moderate-quality images in narrow-band imaging (NBI) and NBI-Near Focus were annotated with bounding boxes around polyps and labelled with histopathology. These were referenced as the gold standard.

We developed a ResNet-101 CNN using 16,832 frames from 229 polyp videos (London, UK) and 451 still images from 266 polyps (Hradec Kralove, Czech Republic).

We assessed the CNN against two internal and one external dataset (Table 1): (1) Test-set (London), consisted of 157 polyp videos (111 diminutive), including 14,320 video frames (Olympus 260 + 290) (2) Test-set II (Hradec Kralove) consisted of 250 polyps (125 diminutive), including 487 still frames (Olympus 180 + 190) (3) Test-set III (Basque), the publicly accessible PICCOLO dataset, consisted of 53 polyps, including 855 frames (Olympus 190).

Results  On the per-frame analysis, the sensitivity for adenoma characterisation was 92 % in test-set I and 90 % in test-set II, 89 % and 85 % specificity, and 96 % and 93 % area under a curve (AUC). For the external test-set III, the CNN characterised adenomas with 86 % sensitivity, 98 % specificity and 99 % AUC.

Conclusions  A CNN trained using data from two nationalities transferred well to an external patient population.

Table 1

<table>
<thead>
<tr>
<th>Polyps</th>
<th>Test-set I (London, UK)</th>
<th>Test-set II (Hradec Kralove, Czech Republic)</th>
<th>Test-set III (Basque, Spain)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenomas</td>
<td>95</td>
<td>167</td>
<td>35</td>
<td>297</td>
</tr>
<tr>
<td>Hyperplastic</td>
<td>35</td>
<td>52</td>
<td>17</td>
<td>104</td>
</tr>
<tr>
<td>Sessile serrated lesions/</td>
<td>27</td>
<td>31</td>
<td>1</td>
<td>59</td>
</tr>
<tr>
<td>Traditional serrated adenomas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of polyps (frames)</td>
<td>157 (14,320)</td>
<td>250 (487)</td>
<td>53 (855)</td>
<td>460</td>
</tr>
</tbody>
</table>

Results  69 patients had colitis on CT scan. 51 % were males, mean age was 46 years (SD ± 15.7). The median time interval between imaging and colonoscopy was 5 days (IQR = 3-13). Primary indications for CT scan were abdominal pain (56.5 %), diarrhoea (20.2 %), looking for sepsis (11.5 %) and rectal bleeding (2.9 %). Most common sites of radiological disease were pancolitis (24.6 %), recto-sigmoid (23.1 %) and ascending colon (18.9 %). 55 % proceeded to colonoscopy, where colitis was noted in 63.1 % of cases.

The most common locations of endoscopic colitis were recto-sigmoid (41.3 %) and a pancolitis (31 %). There was no correlation between disease location radiologically and endoscopically (r = 0.34, p = 0.065). Similarly, there was no correlation between CT indication and endoscopic colitis (r = 0.038, p = 0.891) or time of colonoscopy (r = 0.092, p = 0.500). 26 % of the cohort had Inflammatory Bowel Disease.

Conclusions  Endoscopists are often faced with the dilemma of whether to proceed with colonoscopy on patients with radiological colitis. This data showed no correlation between CT indication or findings with colonoscopical findings. Therefore, although this is a small study, the need for colonoscopy should be individualized.
Methods A retrospective study of 100 colonoscopies was performed. Patients were identified through HIPRE records. Endorad was then employed to review reports and collect the data. 

Results The study involved a total of 100 colonoscopies. 51 male and 49 female. 

28 patients were aged over 75 (16 female and 12 male) with a mean age 81. 
9 of the 28 patients (32%) had prep that was described as poor. 
4 of the 28 patients (14%) were inpatients. 3 of the 4 inpatients had poor prep (75%). 
3 (11%) of the patients had incomplete colonoscopy (2 incomplete due to looping, 1 due to prep) 

In comparison 72 patients were less than 75 years of age. 
39 male, 33 female with a mean age 53. 
14 had poor prep (19% vs 32% in the older age group) 
1 of the poor prep cases was an inpatient. 
1 patient in the less than 75 year age group had an incomplete scope (1.3% vs 11%). 
The reason for this incomplete scope was poor prep. This was an outpatient case.

Conclusions In this review colonoscopies in a single centre, patients over 75 were more likely to have poorer prep than their younger counterparts, they were more likely to get inpatient colonoscopy. Finally older patients had a higher rate of incomplete colonoscopies than their younger counterparts.

eP142 GASTROSCOPY REFERRALS IN PRIMARY CARE MEET APPROPRIATE CRITERIA IN ONLY HALF OF REFERRALS

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Aims Annually, high numbers of diagnostic gastroscopies are performed. It has been suggested that up to 40% of gastroscopy referrals by general practitioners (GPs) do not meet referral criteria. In this study, we evaluated the appropriateness of gastroscopy referrals by GPs in daily clinical practice.

Methods Patients referred for gastroscopy between 2016 and 2018 were identified in a regional primary care patient database. Demographics, symptoms, and medication use were examined by reviewing GP records. Appropriateness of gastroscopy referral was determined according to the Dutch College of General Practitioners guideline 'Upper gastrointestinal symptoms'.

Results A total of 148,926 adult patients from 27 primary care practices were included. We identified 153 patients referred for gastroscopy between 2016 and 2018. Median age was 55 years (IQR 42-66) of whom 67% were female. At time of referral, most patients (n = 141, 92%) already used acid suppressants and more than half (n = 89, 58%) had been tested for Helicobacter pylori. In more than two-third (69% (n = 106)) duration of gastric symptoms was <3 months. According to the guideline, endoscopy referral was inappropriate in 43% (n = 66), with 74% (n = 49) of patients being symptomatic for <3 months. In 80% (n = 70), the gastroscopy did not reveal clinically significant findings and 54% (n = 28) of patients were subsequently referred to a gastroenterologist.

Conclusions Almost half of gastroscopy referrals were considered inappropriate. Although the majority of gastroscopies showed nonsignificant findings, still many patients were referred to a gastroenterologist afterwards. We advocate improved patient counseling to avoid inappropriate gastroscopy referrals, especially in patients with a shorter duration of symptoms.

eP143 REAL-TIME ARTIFICIAL INTELLIGENCE (AI)-AIDED ENDOSCOPY IMPROVES ADENOMA DETECTION RATES EVEN IN EXPERIENCED ENDOSCOPISTS – A COHORT STUDY IN SINGAPORE

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Aims Colonoscopy is a mainstay to detect premalignant neoplastic lesions in the colon. Real-time Artificial Intelligence (AI)-aided colonoscopy purportedly improves the polyp detection rate, especially for small flat lesions. The aim of this study is to evaluate the performance of real-time AI-aided colonoscopy in the detection of colon polyps.

Methods A prospective cohort study was conducted in a single institution in Singapore. All real-time AI-aided colonoscopies performed by specialist-grade endoscopists were anonymously recorded from July – September 2021 and were reviewed by 2 independent authors (FYK, JI). Sustained detection of an area by the program was regarded as a “hit”. All histology for the polypectomies were reviewed to determine adenoma detection rate (ADR). Performances by individual endoscopist with AI were compared against their performance preceding the introduction of AI endoscopy.

Results A total of 24 (82.8%) endoscopists participated with 18 (62.1%) performing ≥5 AI-aided colonoscopies. Of the 18, 72.2% (n = 13) were surgeons and 77.8% (n = 14) were consultant-grade. All AI-aided colonoscopies regardless of indications were included which would provide a realistic and generalisable representation of performance. During that 3-month period, 498 “hits” encountered in 298 colonoscopies. Polypectomies were performed for 83.5% and ADR was 68.5%. Of the adenomas excised, 14 (6.6%) were sessile serrated adenomas. Of the 18 endoscopists who performed ≥5 AI-aided colonoscopies, 13 (72.2%) had an improvement of ADR compared to their polypectomy rate before the introduction of AI.

Conclusions Real-time AI aided colonoscopy have the potential to improved ADR even for experienced endoscopists and would therefore, improve the quality of colonoscopy.

eP144 FELLOW EXPERIENCES WITH ENDOSCOPY SIMULATION BEFORE AND DURING THE COVID-19 PANDEMIC: AN INTERNATIONAL SURVEY

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Aims We aimed to evaluate the current state of endoscopy training internationally in the wake of the pandemic as perceived by trainees.

Methods This cross-sectional study utilized a survey composed of 21 questions eliciting demographic data, COVID-19-related training experiences, and experience with SBT. This survey was distributed internationally (USA, Canada, EU, Philippines, Singapore) to gastroenterology trainees between August 2021 to October 2021.
Results  The questionnaire was completed by 182 fellows, with 55 (30.2 %) from the USA and 127 (69.8 %) from other countries. A majority (69.2 %) found endoscopy training in general to be negatively impacted. Of those who reported a negative impact from the pandemic, 75.0 % attributed it to a decline in endoscopic volume. Overall, 47.2 % of respondents believed COVID-19 will negatively affect their endoscopic proficiency upon fellowship completion. A total of 71 respondents (39.0 %) had experienced SBT before or during fellowship, with 27 from the USA and 44 from other countries. A majority (52.1 %) found SBT appropriate to their level of training. Respondents believed increased access to SBT (43.7 %) and mentored training (54.9 %) would improve the experience.

Conclusions  While current data supports the use of SBT early in training, the uptake before and during the COVID-19 pandemic remained low. Fellows perceive a negative impact of COVID-19 on their training and proficiency upon graduation. Decrease in endoscopic volume was reported as the main factor negatively impacting endoscopic training. This survey highlights the potential benefit of SBT with low case volumes and further prospective evaluation of SBT in achieving endoscopic competence.

eP145  SAFETY OF INDEPENDENT DISCHARGE POST- ENDOSCOPY WITH SEDATION

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Aims  To demonstrate that it is generally safe to allow patients to go home alone after receiving sedation.

Methods  A retrospective review of a tertiary endoscopy center’s database from January 2017 to June 2021, showed 7558 (20.1 %) out of a total of 37601 patients, went home alone after receiving sedation during endoscopies. These patients were assessed to be suitable to go home alone. After the procedure, Post-Anaesthetic Discharge Scoring (PADSS)4 will be used to assess suitability for discharge. A telephone call will be made the following day to check on their wellbeing, focusing on calling patients with medical comorbidities, received more complex procedures or sedatives use. A review will be done for symptomatic patients to determine if the symptoms were likely related to sedation or endoscopy. Patients going home alone will be advised to take public transport home and not be allowed to drive home.

Results  2077/7558 (27.5 %) patients discharged home alone were contacted. 27/2077 (2.4 %) of them reported mild symptoms which were unlikely a result of them going home alone. No patient suffered any untoward complication. There seems to be an increasing trend in the percentage of patients preferring to go home alone from 2018 to 2021 (16.6 % vs 23.4 %).

Conclusions  Allowing a select group of patients to return home alone post-sedation is safe, especially if good public transportation is available in a small country like Singapore. As the demand to return home alone seems to be increasing, this can be for suitable patients to reduce hardship and inconveniences for them.

eP146  DISEASE AND NON-DISEASE-RELATED RISK FACTORS FOR INADEQUATE BOWEL PREPARATION IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE: SHOULD THE STRATEGY BE DIFFERENT?

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Aims  Colonoscopy is of utmost importance in the management of inflammatory bowel disease (IBD). Most studies on inadequate bowel preparation (IBP) have not specifically evaluated the impact of IBD on the quality of bowel preparation. We aimed to identify disease and non-disease related factors for IBP in patients with IBD submitted to colonoscopy.

Methods  Retrospective cohort-study which included adult IBD patients submitted to colonoscopy between 2016-2021. Patients’ demographic, clinical, biochemical, and colonoscopy data were recorded. IBP was defined as a final Boston Bowel Preparation Scale ≤ 5 or ≤ 1 in at least one segment. A univariable
analysis tested the association between covariables and the outcome(IBP) in general and considering Crohn's disease(CD) and ulcerative colitis(UC) patients separately. Statistically significant variables were included in multivariable logistic binary regression.

**Results** Of 309 patients, 51.3%(n = 158) had UC and 48.9%(n = 151) had CD. Eighty-two patients(27%) had IBP which was not significantly different between UC and CD patients (40±42,p = 0.699 respectively). The presence of diabetes mellitus (OR 13.9 [95 %CI 1.388–139.624], p < 0.05) and antidepressant use (OR 4.1 [95 %CI 1.247–13.625], p < 0.05) were independently associated with IBP in general. In contrast, only previous history of IBP (OR 3.1 [95 %CI 1.184–8.271], p < 0.05) was independently associated with IBP in UC patients. Disease-related factors such as previous surgery, steroids, immunosuppressors, biologics and endoscopic activity were not associated with IBP.

**Conclusions** The presence of diabetes mellitus and antidepressant use are predictors of IBP for colonoscopy in patients with IBD. Disease-related factors seem to have no influence in the quality of bowel preparation suggesting that a specific approach is unnecessary in these patients.

eP147    **DETAILED MATERIAL ANALYSIS OF COMMONLY USED ENDOSCOPY INSTRUMENTS**

**Authors** López-Muñóz P.1, Martín-Cabezuelo R.1, Pons-Beltrán V.1, Vilarinho G.2, Betín P.A.2, Tort I.2, Vidaurre A.2, Lorenzo-Zúñiga V.1

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**DOI** 10.1055/s-0042-1745000

**Aims** Gastrointestinal endoscopy requires considerable amount of single-use consumable instruments and supplies. Details on the material composition of these single use instruments are not publicly available. There is a need for providing details about materials involved to estimate the environmental impact of endoscopes or instruments. We aimed to analyze detailed composition of materials of commonly used instruments: biopsy forceps, polypectomy snares and hemostatic clips.

**Methods** Different instruments produced by three endoscopy product companies (A and B) for biopsy forceps and polypectomy snares and two companies (A and B) for hemostatic clips were selected. We analyzed in detail the chemical and thermal properties of packing, tip, body, and handle of each instrument using Fourier transform infrared spectroscopy (FTIR), energy dispersive X-Ray analysis (EDX) differential scanning calorimetry (DSC) and thermogravimetric analysis (TGA). Carbon footprint was measured by using OpenLCA software.

**Results** The major components of commonly used single-use instruments were identify mostly as plastic polymers and medical degree alloys (48 % metal, 52 % plastic). Detailed material analysis were: biopsy forceps (63.5±5.2 g, 64 % metal, 41 % plastic); polypectomy snares (57.2±19.5 g, 33 % metal, 67 % plastic); and hemostatic clips (84.4±1.5 g, 43 % metal, 57 % plastic) (see Table 1). Carbon footprint varies from different commonly used endoscopic instruments.

**Table 1**

<table>
<thead>
<tr>
<th>Total weight (g) Instrument + packaging</th>
<th>Forceps (63.4±5.2)</th>
<th>Snare (57.2±19.5)</th>
<th>Clip (84.4±1.5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic (g)</td>
<td>22.7±5.2</td>
<td>38.7±19.5</td>
<td>48.1±12.1</td>
</tr>
<tr>
<td>Metal (g)</td>
<td>40.8±5.0</td>
<td>18.5±16.4</td>
<td>36.6±13.6</td>
</tr>
<tr>
<td>Plastic (%)</td>
<td>36</td>
<td>67</td>
<td>57</td>
</tr>
<tr>
<td>Metal (%)</td>
<td>64</td>
<td>33</td>
<td>43</td>
</tr>
</tbody>
</table>

**Conclusions** Describing the exact composition and carbon footprint of single-use endoscopy consumables should be provided by endoscopic companies for decision making progress in endoscopy units. Novel studies evaluating the possibility of reuse, recycle and developing greener ways to dispose consumables are needed to improve sustainability.

eP148    **CARBON FOOTPRINT DETERMINATION OF SINGLE-USE ENDOSCOPE**

**Authors** López-Muñóz P.1, Martín-Cabezuelo R.1, Pons-Beltrán V.1, Vilarinho G.2, Betín P.A.2, Tort I.2, Vidaurre A.2, Lorenzo-Zúñiga V.1

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**DOI** 10.1055/s-0042-1745001

**Aims** The current COVID-19 crisis has forced us to increase the presence of non-reusable instruments which makes mandatory to analyze our ecological footprint. Gastrointestinal endoscopy represents one of the largest procedure volumes of single-use consumables. One-time use endoscopes and duodenoscopes already exists and are gaining presence in the GI industry. We aimed to analyze carbon footprint of these instruments to determine its environmental effect.

**Methods** A disposable duodenoscope was selected for analysis and comparison with reusable ones. We analyzed in detail the chemical and thermal properties of these one-use endoscopes using Fourier transform infrared spectroscopy (FTIR), energy dispersive X-Ray analysis (EDX) differential scanning calorimetry (DSC) and thermogravimetric analysis (TGA). Carbon footprint was measured by using OpenLCA software.

**Results** The single-use duodenoscope major components are made of polymeric materials. Packaging comprises almost 75 % of its total weight (40 % of paper and 60 % of plastic). Carbon footprint varies from different commonly used endoscopic instruments.

**Conclusions** Increasing awareness of infectious diseases and risk of contamination has arisen due to COVID-19 pandemic. Usage of disposable endoscopes has trended upwards to mitigate the risk of contamination, mainly in immunocompromised patients. Knowing the exact composition and carbon footprint of manufacturing process of single use endoscopes is paramount to estimate the environmental impact before complete establishment in gastrointestinal endoscopy industry.

eP149    **UTILITY OF CLINICAL AND VIROLOGICAL SCREENING STRATEGY FOR SARS-COV-2 INFECTION PRIOR TO SCHEDULED AMBULATORY DIGESTIVE ENDOSCOPY**

**Authors** López-Serrano A.1,2, Algarra A.1, Díaz R.1, Voces A.1, Lorente J.R.1, Hervás J.1, García C.1, Valdepeñas L.1, Machancoses A.1, Paredes J.M.1

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**DOI** 10.1055/s-0042-1745002

**Aims** Screening for SARS-Cov-2 infection is currently recommended in patients undergoing endoscopic tests, especially in upper gastrointestinal tract. However, the scientific evidence is not high and there is no clear consensus on the method to be used (clinical and/or virological). The aim of the study was to assess the usefulness of SARS-Cov-2 screening by both clinical interview and virological study in outpatients undergoing oral digestive endoscopy.

**Methods** Retrospective study from prospective data including outpatients with low suspicion of COVID19 infection after telephone clinical screening that were scheduled within 2-5 days for oral endoscopy, from February to September 2021. A nasal smear CRP test for infection by SARS-COV2 was requested in the previous 48 hours from all participants.
Results A total of 1203 patients were invited; 98 patients (8.1%) did not attend virological screening. Finally, 1105 patients were included: 76% men, mean age 71 years (minimum-maximum: 6-99 years). CRP was positive in 12 patients (1.1%); 11 patients with cycle threshold (CT) > 30 (including 4 patients affected from COVID19 in ≥ 2 previous months). Two other patients with negative CRP reported possible recent contact with a COVID19 patient. Endoscopy was delayed in all of them, with negative CRP one month later and with trivial endoscopic findings.

Conclusions Clinical screening for SARS-Cov-2 infection prior to ambulatory scheduled endoscopic explorative may be an effective strategy and could prevent universal virological screening in asymptomatic patients undergoing gastrointestinal endoscopy.

eP150 SMALL BOWEL CLEANSING ASSESSMENT AND REPORT (SB-CLEAR): STANDARDIZING THE REPORT OF BOWEL PREPARATION’S QUALITY IN CAPSULE ENDOSCOPY

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Aims Small-bowel (SB) cleansing is crucial to assess reliability of capsule endoscopy (CE) findings. However, the existence of multiple grading scales for SB preparation in CE hampers their appliance in clinical practice. In 2020, Colon Cleansing Assessment and Report (CC-CLEAR) was created. We sought to validate an adapted version for evaluation of SB cleansing, aiming to standardize CE reporting regarding quality of preparation.

Methods For SB Cleansing Assessment and Report (SB-CLEAR), SB was divided into 3 tertiles, each being scored according to estimation of the percentage of visualized mucosa (0–<50%; 1–50-75%; 2–>75%; 3–>90%). Overall classification was a sum of each segment score, graded between excellent (8-9), good (6-7), and inadequate (0-5). Any segment scoring ≤ 1 resulted in inadequate overall classification. CE videos were prospectively evaluated and scored by 2 experienced CE readers blinded to each other. Interobserver agreement was assessed.

Results We included 52 CEs. Overall, SB-CLEAR classifications were: reader A – 30 (57.7%) excellent; 9(17.3%) good; 13(25.0%) inadequate; reader B – 33(63.5%) excellent; 6(11.5%) good; 13(25.0%) inadequate. SB-CLEAR inter-observer agreement was very strong for each tertile (first tertile r = 0.863; second tertile r = 0.865; third tertile r = 0.861; p < 0.001), which resulted in overall excellent correlation when considering all tertiles (r = 0.857; p < 0.001).

Conclusions SB-CLEAR is an innovative and reproducible scale for evaluation of SB preparation quality in CE, with overall excellent inter-observer agreement. With CC-CLEAR, it may become a valuable tool to uniformize reporting of bowel preparation quality in CE.

eP151 FEASIBILITY OF UNRESTRICTED DIET VERSUS A 3-DAY LOW-RESIDUE DIET PRE-COLONOSCOPY AND IT IMPACT ON THE QUALITY OF THE BOWEL PREPARATION

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Aims To compare the effect of unrestricted diet versus a 3-day low-residue diet pre-colonoscopy in the quality of the bowel preparation.

Methods A randomized, multicenter, researcher-blinded and parallel-group feasibility trial was performed to compare an unrestricted diet versus a 3-day low residue diet for colonoscopy preparation in individuals with positive fecal immunochemical test aged between 50 and 69 years, who participated in an organized colorectal cancer screening program, and without factors associated with poor bowel cleansing. The efficacy of the colon preparation was assessed using the Boston Bowel Preparation Scale during intubation and withdrawal. Secondary outcomes were: bowel exploration time, adenoma and polyp detection rates and preparation and diet tolerability.

Results A total of 102 individuals were randomized, with a mean age of 59.3 ± 5.5 years, 40.1% were women. All participants in both groups had adequate preparations (Boston scores ≥ 2 in each segment). Adherence to the preparation was complete in most participants in both groups. No significant differences between groups were observed in withdrawal or cecal intubation times nor adenoma detection rate. The unrestricted diet was significantly better tolerated than the 3-day low residue diet (p < 0.01). Preparation assessed during intubation was adequate in 82.5% in the free diet group and 90.3% in 3-day low residue diet group (p = 0.24).

Conclusions Unrestricted diet is preferred by the patients. Dietary restriction may be unnecessary to achieve adequate bowel preparation.

eP152 AN EVALUATION OF A NOVEL BOWEL PREPARATION REGIMEN AND ITS EFFECT ON THE UTILITY OF COLON CAPSULE ENDOSCOPY

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Aims To evaluate the efficacy of a novel bowel preparation and booster regimen for patients undergoing colon capsule endoscopy (CCE).

Methods This was a prospective audit carried out between 12/07/2021 and 29/11/2021. Symptomatic patients (those referred with lower gastrointestinal symptoms) undergoing CCE in NHS Highland trialled a new bowel preparation and booster regimen for their procedure (Table 1). We recorded the completeness of procedure (visualisation of the whole colon and rectum), bowel preparation adequacy, if the test was successful (complete with adequate bowel preparation) and if a further test was required following CCE. We also noted the reason for further test (either due to CCE findings or inadequate CCE).
Methods MEDLINE via PubMed, Ovid Embase, Scopus and Cochrane Library were systematically searched through November 2021 for studies comparing 1L PEG-ASC versus other bowel preparations for colonoscopy. A meta-analysis (7 RCTs, 2 prospective observational studies, 5186 participants).

Results Nineteen studies met the inclusion criteria and were included in the meta-analysis (7 RCTs, 2 prospective observational studies, 5186 participants). The analysis showed a significant higher cleansing success (CS) for 1L PEG-ASC compared to other preparation both overall (OR 1.68; 95% CI 1.33-2.12; p < 0.01, I² = 46%) and in the split regimen subgroup (OR 1.44; 95% CI 1.17-1.78; p < 0.01, I² = 0%), as well as a significant greater high-quality cleansing (HQC) of the right-colon overall (OR 2.02; 95% CI 1.33-3.07; p < 0.01, I² = 82%) and in the split regimen subgroup (OR 1.73; 95% CI 1.16-2.57; p < 0.01, I² = 73%).

The pooled estimate of adenoma detection rate (ADR) showed no significant difference among the two groups either overall (OR 1.02; 95% CI 0.86-1.21; p = 0.79, I² = 0%), or in the split regimen subgroup (OR 0.99; 95% CI 0.83-1.19; p = 0.93, I² = 0%).

A non-significant higher pooled estimate of patients with mild/moderate adverse events (AEs) was observed for 1L PEG-ASC compared to other preparations (OR 1.36; 95% CI 0.97-1.90; p = 0.07, I² = 61%). No severe AEs occurred.

Conclusions When compared to traditional preparations, 1L PEG-ASC showed higher overall CS and HQC of the right-colon, and similar ADR. A non-significant higher number of patients with mild/moderate AEs was observed for 1L PEG-ASC in the absence of severe AEs.

Table 1 Bowel preparation and booster regimen.

| Day – 1 | 1L Moviprep solution |
| Day of procedure | Booster 1 – 30ml of Phosphosoda and 50ml Gastrografin |
| | Booster 2 – 15ml of Phosphosoda and 50ml Gastrografin |

Results 183 patients were included in this audit. The median age was 61 years and 114/183 (62%) were female. 130/183 (71%) patients had a complete test, 157/183 (86%) had adequate bowel preparation and 118/183 (64%) had a successful test. 76/183 (42%) of patients required no further test following CCE, 46/183 (25%) required a colonoscopy, 55/183 (30%) required a flexible sigmoidoscopy and 6/183 (3%) required a CT colonogram. 41/46 (89%) colonoscopies were required due to CCE findings, and 5/46 (11%) colonoscopy were required due to an inadequate test. 28/55 (51%) and 27/55 (49%) flexible sigmoidoscopy were required due to CCE findings and an inadequate test, respectively.

Conclusions We found the rate of adequate bowel preparation using this novel regimen comparable to colonoscopy. However, further work is needed to improve the completion rate which will reduce the need for flexible sigmoidoscopy following CCE.

eP153 EFFECTIVENESS AND SAFETY OF 1L PEG-ASC VERSUS STANDARD BOWEL PREPARATIONS FOR COLONOSCOPY: A META-ANALYSIS

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Aims This meta-analysis aims to estimate the effectiveness of 1L polyethylene glycol plus ascorbate (PEG-ASC) versus other bowel preparations for colonoscopy.

Methods MEDLINE via PubMed, Ovid Embase, Scopus and Cochrane Library were systematically searched through November 2021 for studies comparing 1L PEG-ASC versus other bowel preparations. A random-effect model was applied for pooling results; heterogeneity was expressed as I².

Results Very low-volume bowel preparation (BP) for colonoscopy with one liter polyethylene glycol plus ascorbate (1L-PEG-Asc) has displayed high tolerability, compliance, and quality of bowel cleansing. However, concerns have been raised regarding the safety of 1L-PEG-Asc. In our study, we aimed to evaluate the incidence of adverse events (AEs) following BP with 1L-PEG-Asc or 2L-PEG-Asc.

From January 2019 to September 2020, data from all consecutive adult outpatient patients who underwent colonoscopy in the Modena District Hospital Digestive Endoscopy Unit were collected. AEs were assessed by reviewing the clinical and laboratory data of patients who attended the Emergency Department of the Modena District Hospitals in the 7 days following the colonoscopy, and were classified as “BP-related” or “BP-unrelated”.

Results During the study, 4069 (68.03%) and 1912 (31.97%) patients underwent colonoscopy in our Unit after taking 2L-PEG-Asc or 1L-PEG-Asc, respectively. Regarding AEs, 77 (1.29%) patients attended ED in the 7 days following the colonoscopy, 53 (53/4069, 1.30%) and 24 (24/1912, 1.25%) after taking 2L-PEG-Asc and 1L-PEG-Asc, respectively. BP-related AEs were observed in 5 (5/4069, 0.12%) and 4 (4/1912, 0.21%) patients after 2L-PEG-Asc and 1L-PEG-Asc, respectively. The most frequent BP-related AEs were tachyarrhythmias (6/5981, 0.10%).

Conclusions Our data show that the incidence rate of clinically relevant BP-related AEs following either 1L-PEG-Asc or 2L-PEG-Asc is extremely low. This strongly suggests that the very low-volume 1L-PEG-Asc colonoscopy BP is as safe as 2L-PEG-Asc BP in a real-life clinical setting of unselected patients.
eP155 EFFECTIVENESS OF DIFFERENT VOLUMES OF PEG PREPARATION FOR COLONOSCOPY IN THE ELDERLY: A RETROSPECTIVE ANALYSIS OF A PROSPECTIVE COHORT

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Institutes 1 Gastroenterology and Endoscopy Unit, S. Elia-Raimondo Hospital, Caltanissetta, Italy; 2 Gastroenterology and Endoscopy Unit, Fondazione Instituto San Raffaele Giglio, Cefalù, Italy; 3 Gastroenterology and Endoscopy Unit, Santa Chiara Hospital, Trento, Italy; 4 Gastroenterology Unit, ARNAS Garibaldi, Catania, Italy; 5 Gastroenterology Unit, Ospedale Basarocco, Niscemi, Italy

Aims To assess the effectiveness of different volumes of polyethylene glycol (PEG) preparations for colonoscopy and other factors associated with cleansing success in the elderly.

Methods We retrospectively reviewed a prospective cohort of 1289 in- and outpatients performing colonoscopy, after an afternoon-only or afternoon-morning 1, 2 or 4L PEG-based preparation. The elderly population was defined by age ≥ 65 years. The primary endpoints were the assessment of cleansing success (CS) and high-quality cleansing (HQC) of the right-colon.

Results All 575 patients aged ≥ 65 years were included in the analysis. Overall, 54.6% of patients were male, mean age was 72.8 ± 5.9 and 94.3% of subjects were outpatients. Colonoscopy was completed with cecal intubation in 95.5% of cases, CS was achieved in 70.3% and HQC of the right-colon in 17.7% of patients. When analysing the effectiveness of bowel cleansing by different PEG volumes, CS was achieved in 89.3%, 76.7% and 71.8% (p = 0.024) for 1, 2 and 4L PEG, and HQC of the right colon in 36.9%, 9.4% and 17.0% (< 0.001) for 1L, 2L and 4L PEG respectively.

At multivariate analysis, afternoon-morning regimen (OR = 2.43, 95%CI = 1.34-4.24; p = 0.001) and colonoscopy within 5 hours after preparation (OR = 2.67, 95%CI = 1.28-5.56; p = 0.008) were independently associated with CS.

Conclusions Achieving adequate bowel cleansing in the elderly is challenging and influenced by many external factors. In these patients, 1L PEG is associated with higher rates of CS and HQC of the right-colon compared to higher volume PEG preparations.

eP156 PERFORMANCE OF A CONVOLUTIONAL NEURAL NETWORK FOR THE DETECTION OF BLOOD OR HEMATIC RESIDUES IN ENTEROSCOPY: A PROOF-OF-CONCEPT STUDY

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Aims Artificial intelligence algorithms have shown promising results when applied to different endoscopic techniques. The application of Convolutional Neural Networks (CNN) for detection of lesions in double-balloon enteroscopy (DBE) has not been explored. We aimed to develop and test a CNN-based algorithm for automatic detection of blood or hematic residues in DBE exams.

Methods We included a total of 6900 images, 1435 showing blood or hematic residues. The remaining images showed normal mucosa or other findings. A pool of 5520 images (80% of the image dataset) was used for development of the network. Its performance was evaluated using a validation dataset comprised by the remaining 20% of the dataset (n = 1380). The output provided by the network was compared to a consensus classification provided by two gastroenterologists with experience in DBE (Figure 1). The sensitivity, specificity, accuracy, positive and negative predictive values, and area under the curve (AUC) were calculated.

Results After optimization of the neural network, our model automatically detected blood in the small bowel in enteroscopy images with a sensitivity of 95.8%, a specificity of 97.6%, positive and negative predictive values of 91.4% and 98.9%, respectively. The CNN had an overall accuracy of 97.2%. The AUC was 0.99. The CNN analyzed the validation dataset in 10 seconds, at a rate of approximately 138 frames per second.

Conclusions We developed a pioneer AI algorithm for automatic detection of blood or hematic residues during DBE exams which may enhance the diagnostic yield of deep enteroscopy techniques in patients with bleeding originating from the small bowel.

eP157V DETAILED METHOD TO DETERMINE CARBON FOOTPRINT

Authors Martín-Cabezuelo R.1, López-Muñoz P.1, Pons-Beltrán V.1, Vilaríño G.2, Betín P.A.2, Tort L.2, Vidalurri A.2, Lorenzo-Zúñiga V.1
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Due to COVID19 pandemic, the use of disposable materials for healthcare purposes has increase significantly, leading to a rampant increase of residues which affects the environment. Determining the life cycle of GI instruments is key factor in improvement our environmental footprint. For that each of the instruments are characterised by several techniques such as, Fourier transform infrared spectroscopy, Energy Dispersive X-Ray analysis, Differential Scanning Calorimetry, and Thermogravimetric Analysis. The establishment of GI instruments carbon footprint make the healthcare institutions become aware of its environmental effect and helps to reduce its detrimental effect by choosing the better option.
eP158  UPPER GASTROINTESTINAL BLEEDING: COMPARISON BETWEEN THE ROCKALL SCORE AND THE GLASGOW-BLATCHFORD SCORE

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DOI: 10.1055/s-0042-1745011

Aims: Upper gastrointestinal bleeding (UGIB) is a common cause of hospital admission. Multiple scoring systems have been developed to stratify patients: including Rockall and Glasgow-blatchford. Many clinical studies have validated their predictive values; yet, their clinical effectiveness and their cut-offs are subjects to debates.

Methods: This is a prospective, descriptive and analytical study conducted between April 2020 and November 2021. We included patients over 18 years of age who presented with upper gastrointestinal bleed.

Results: 100 patients were included, mean age 60 [40.5–72]. The sex ratio: 1.2 : 1. The prevalence of rebleeding was 37.6% of patients. The mean of the two scores was significantly higher in patients who rebleeded compared to those who did not: GBS (8.32 ± 2.6 Vs 7.17 ± 3.5, p 0.005: ) ; RS (5.39 ± 1.64 Vs 3.48 ± 1.23 p<0.001). In multivariate analysis, the two scores were predictive of re-bleeding: Glasgow score (OR = 1.13 , p<0.001), RS (OR = 1.7, p =0.003).

The GBS – using a cut-off of 4 has an excellent sensitivity and NPV: (Sensitivity: 100 % – Specificity: 9.38 % – PPV:29.3 % -NPV:100 % ) ; In comparison with The Rockall score has an excellent and better NPV than the Rockall score. It would make clinical implications.

Conclusions: The majority of endoscopists were satisfied with performance of the SUD with median ratings stated as “meets expectations” or above. 98 % were willing to use the SUD again. Positive comments on the translucent tip indicates that further research is needed to fully understand the benefits and clinical implications.

Table 1

<table>
<thead>
<tr>
<th>Expectation (Overall Satisfaction)</th>
<th>Far below / Below (1) / (2)</th>
<th>Meets (3)</th>
<th>Above (4)</th>
<th>Far above (5)</th>
</tr>
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<tr>
<td>Ease of setup</td>
<td>0 % / 1 %</td>
<td>45 %</td>
<td>37 %</td>
<td>16 %</td>
</tr>
<tr>
<td>Silent suction Button</td>
<td>1 % / 6 %</td>
<td>33 %</td>
<td>39 %</td>
<td>21 %</td>
</tr>
<tr>
<td>Weight of SUD</td>
<td>1 % / 2 %</td>
<td>40 %</td>
<td>36 %</td>
<td>20 %</td>
</tr>
<tr>
<td>Overall Satisfaction</td>
<td>0 % / 8 %</td>
<td>32 %</td>
<td>47 %</td>
<td>13 %</td>
</tr>
</tbody>
</table>

eP159  USER EVALUATIONS OF THE DEVICE PERFORMANCE OF A NOVEL SINGLE-USE DUODENOSCOPE IN A CLINICAL SETTING

Authors: Meisner S.1, Russell R.2, Talbøll T.2, Adamsen S.1,2
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DOI: 10.1055/s-0042-1745012

Aims: To investigate endoscopists’ perception of a novel single-use duodeno-scope (SUD) in clinical use.

Methods: Performance evaluation forms were filled by 137 European and Australian endoscopists at 87 hospitals immediately after using the SUD (Ambu aScope Duodeno) for patients in the first time. A five-point Likert scale was used to assess the attributes of the SUD. Whether they would use the SUD again was assessed on a binary scale, and comments on the translucent tip were segmented based on their theme. The ASGE ERCP difficulty grading scale and endoscopists’ SUD experience were assessed using linear regression. Statistical analysis was done with RStudio Pro ver. 1.2.5033-1.

Results: In 247 procedures, the endoscopists median overall satisfaction with the SUD was 4 (IQR 3–4). 98 % would use the SUD again. 82 % commented positively on the translucent tip. Median score for ease of setup, silent suction button and the weight of the endoscope were “above expectations” in 37 %, 39 % and 36 %, respectively. Median scores of remaining parameters were “meets expectations”. The overall satisfaction, navigation, angulation capability, tip control and orientation and passing of accessories correlated significantly (p>0.05) with the endoscopists’ experience with the SUD. ASGE ERCP grading scale correlated with rating of weight and ease of setup.

Conclusions: The majority of endoscopists were satisfied with performance of the SUD with median ratings stated as “meets expectations” or above. 98 % were willing to use the SUD again. Positive comments on the translucent tip indicates that further research is needed to fully understand the benefits and clinical implications.

eP156V  BALLOON EXPANDABLE BIODEGRADABLE STENT USING EUS-ANTEGRADE APPROACH IN PATIENTS WITH BENIGN BILIARY STRICTURE AND SURGICALLY ALTERED ANATOMY

Authors: Robles-Medranda C.1,2, Merefa R.C.1, Alcivar-Vasquez J.1, Del-Valle R.1, Arevalo-Mora M.1, Barreto-Perez J.1
Institute: 1 Instituto Ecuatoriano de Enfermedades Digestivas, Guayaquil, Ecuador
DOI: 10.1055/s-0042-1745013

Aims: Therapy of benign biliary strictures due to altered anatomy may be challenging. We report the first two cases of biodegradable metallic stent placement through EUS-HGS (endoscopic-ultrasound-hepaticogastrostomy).

Methods: Two female patients, were managed for postsurgical biliary stenosis. EUS-HGS fistula was created. After 2 months, BEBS was deployed.

Result: Procedural complication occurred in the second patient. During EUS-HGS, distal end of stent was displaced between liver and cardia. Liver was accessed through esophagus. Distal end of stent was retrieved using a forceps. The patients presented normalization of biochemistry. Stent degradation occurred within 8 weeks.

Conclusions: EUS-HGS may replace percutaneous access.

eP161  EVALUATION OF THE REPRODUCIBILITY OF EACH LOCATION OF STOMACH IN THE NEW GASTRIC ENDOSCOPIC SUBMUCOSAL DISSECTION TRAINING MODEL

Authors: Mitsui T.1, Yoda Y.1,2, Sunakawa H.1, Takashima K.1,2, Nakajo K.1, Murano T.1, Kadota T.1, Shinmura K.1, Ikematsu H.1, Yano T.1,2
Institutes: 1 National Cancer Center Hospital East, Gastroenterology and Endoscopy, Kashiwa-shi, Japan; 2 National Cancer Center Hospital East, NEXT Medical Device Innovation Center, Kashiwa-shi, Japan
DOI: 10.1055/s-0042-1745014

Aims: Gastric ESD is a highly technical procedure mainly due to the distinctive shape of the tract and diverse lesion locations. We have developed a new gastric ESD training model (G-Master) with KOTOBUKI Medical (Saitama, Japan) and assessed the reproducibility of the lesion location in the model.

Methods: The model was consisted of a simulated mucous membrane sheet made of Plant-based material (konjac flour) and a setting frame. The setting frame consists of an esophagus-like tube, a spatula that imitates the greater curvature of the stomach, and a frame for fixing the sheet (2-axis gimbal structure), and can reproduce 11 locations of the stomach.
We assessed the reproducibility of each location in the new gastric ESD training model by a questionnaire to experts. Eight experts performed ESD in 3-5 locations per person. The questionnaire included a) similarity of locations, and b) similarity of mucosal tension changes due to adjustment of the amount of air in the stomach, and was answered on a 6-point scale. The average of score in the same location < 2 points was considered a low rating, 2–4 points was medium rating, and > 4 points, high rating.

**Results**

By location, similarity of locations had a generally high rating, but only lower anterior and posterior walls had medium ratings with 3–4 points. In all locations, similarity of mucosal tension changes were high rating.

**Conclusions**

The new gastric ESD training model was evaluated as highly reproducible for each stomach position by experts.

---

**Table 1**

<table>
<thead>
<tr>
<th>Indication</th>
<th>Previous Abdominal Surgery 50 (30.1%)</th>
<th>No Valid Indication 21 (12.7%)</th>
<th>Suspected Crohn's Disease 18 (10.8%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known Crohn's Disease 36 (21.7%)</td>
<td>None documented 3 (1.8%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiological findings 20 (12.0%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long term NSAID use 20 (12.0%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other 19 (11.4%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Indication for patency assessment was appropriate in 145 (87.3%) with 21 (12.7%) falling outside current guidelines. 18 of these 21 were for suspected Crohn’s disease without obvious additional risks for capsule retention.

The overall patency failure rate was 43.1 %. 2 patients (1.2 %) presented with symptomatic retention of the patency capsule and were managed conservatively. Fail rates were similar between those with a valid indication vs no valid indication for patency assessment (42.9 % vs 43.9 %).

No patient who passed patency assessment went on to have capsule retention during the actual test.

**Conclusions**

Patency capsules are an effective means of reducing capsule retention in at-risk groups. Due to the high failure rate at patency assessment, its overuse would result in excessive exclusion of patients from capsule endoscopy. This high failure rate is possibly related to procedural aspects and warrants further investigation to avoid this eventuality.
Results: 24 patients were included (14 males, mean 71.4 +/− 19.2 years). At the onset of UGB, 18 were on supplemental oxygen, 6 had an endotracheal tube, 22 were under enoxaparine, 8 were taking antplatelets and 2 were taking direct oral anticoagulants. All 24 patients were treated with proton pump inhibitors, whereas all intubated patients were treated with vasoactive drugs. Upper endoscopy was performed after a median of 1 days (range 0-3). Peptic ulcer was the most common finding (10/24), follow by erosive gastritis (5/24) and oesophagitis (4/24). Endoscopic treatment (endoclips + adrenaline injection) was required in 10/24 cases. For predicting the need for endoscopic treatment, GBS showed a good performance (AUROC = 0.84, 95%CI:0.69-0.99) and pre-endoscopy Rockall performed fairly (AUROC = 0.77, 95%CI:0.58-0.96), whereas the performance of AIMS65 was poor (AUROC = 0.61, 95%CI:0.38-0.84). No endoscopic treatment was required at a GBS < 12.5 (8/24 patients; sensitivity = 100 %, specificity = 57.1 %) and a pre-endoscopic Rockall < 1.5 (4/24 patients; sensitivity = 100%, specificity = 28.6%).

Conclusions: Risk scoring systems appear to be useful for triaging the need for endoscopic intervention in patients with COVID-19 pneumonia who develop UGB.

eP165  RETROSPECTIVE OBSERVATIONAL STUDY OF COVID19 PANDEMIC IMPACT ON CRC DIAGNOSIS AT GIRONA’S REFERENCE HOSPITAL

Authors  Parodi Grau L.1, Albert Carrasco M.1, Oliveras Font B.1, Guarnier Escribano E.1, Hombrados Verde M.1, Busquets Casals D.1, Torrealfa Medina L.1, Mohamed F.1, Huertas Nadal C.1

Institute 1 University Hospital Dr. Josep Trueta, Girona, Spain


Aims: Introduction: Due to the covid-19 pandemic, most of the endoscopy units were forced to decrease their usual activity dramatically. This fact made the implementation of a prioritization criteria necessary for the restoration to their usual operation.

Aim: Evaluation of the pandemic impact on colorectal cancer (CRC) cases diagnosed in our center.

Methods: Retrospective observational study of CRC cases endoscopically diagnosed in our hospital from January 2019 to May 2020 evaluating demographic variables, waiting time, TNM staging and mortality in before and after pandemic beginning.

Table 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>Total</th>
<th>Prepandemic</th>
<th>Postpandemic</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRC: n</td>
<td>153</td>
<td>74</td>
<td>79</td>
</tr>
<tr>
<td>Wait time: median (± IQR * )</td>
<td>16 (+42)</td>
<td>24 (+52,5)</td>
<td>14 (+24,5)</td>
</tr>
<tr>
<td>Metastasis: n (%)</td>
<td>47 (30.72%)</td>
<td>27 (36.49%)</td>
<td>20 (25.32%)</td>
</tr>
<tr>
<td>Exitus**: n (%)</td>
<td>29 (18.95%)</td>
<td>17 (22.97%)</td>
<td>12 (15.19%)</td>
</tr>
</tbody>
</table>

(*Interquartile range; ** CRC related exitus)
Conclusions Colonscopy using a sensor was most effective and showed feasibility when the anus was expressed as a fixed point. Further clinical study using FBG sensor is expected to be needed in the near future.

eP167 APPLICATION OF ENDOSCOPIC SUTURE MACHINE: IN VITRO DURABILITY STUDY
Authors Park G.1, Choi H.S.1, Chun H.J.1, Jeen Y.T.1, Keum B.1, Kim E.S.1, Jeon H.J.1, Kim S.1, Lee K.W.1
Institute 1 Korea University Anam Hospital, Gastroenterology & Hepatology, Seoul, Korea, Republic of
Aims Various endoscopic procedures had been developed such as endoscopic submucosal dissection and endoscopic bariatric surgery. However, such advanced procedures are mostly dependent on experiences of endoscopists. Numerous endoscopic devices had been invented in an effort to decrease procedural complication, but only a few of them had demonstrated improvements in closure strength and reproducibility. Thus, in this study, we evaluated the feasibility and reproducibility of the endoscopic suture machine and to identify the durability difference according to the location closure method.
Methods Approximately 1 cm sized tears were made with a scalpel on antrum, low-body and mid-body on the greater curvature. The suture machine with an 19-gauge needle with thread is loaded at the end of the scope. The suture device is placed at the selected site and close the tear. To compare the closure strength, endoclips were used to close the defect. Then, the stomach models were test for air leakage and the closure strength were tested by mechanical loading tester.
Results None of the stomach models showed air leakage. The stomach models closed with the suture machine showed more stable closure strength compared to those with endoclips. Also, we evaluated closure strength according to the location of the defects. We discovered tears on antrum were more securely closed than the tears on the body.
Conclusions The durability of suture differs according to the location of the stomach and the closure methods. Use of endoscopic suture device is expected to decrease procedure-related complications such as perforation and bleeding. The results demonstrated the reproducibility of the suture device and further studies are necessary to evaluate the consistency of the suture machine.

eP168 A COMPARATIVE STUDY OF COLONOSCOPY PREPARATION WITH 1L PEG + ASCORBIC ACID VS SODIUM PICOSULPHATE WITH MAGNESIUM CITRATE IN REAL-LIFE SETTING: EFFECTIVENESS, AND SAFETY
Authors Pérez Arellano E.1, Rodríguez García M.I.1, Galera Ródano A.B.1, Flores Á.1, de la Morena Madrigal E.1
Institute 1 Hospital de la Zarzuela, Gastroenterology, Madrid, Spain
Aims Preparations based on polyethylene glycol (PEG) and sodium picosulphate with magnesium citrate (SPMC), are first-line options, but comparative data in a real-life setting are lacking. This study aims to compare the effectiveness and safety of low volume 1L PEG + Ascorbic Acid (1L PEG + A) versus SPMC in real-life setting.
Methods Systematic and prospective registry of outpatients prepared with 1L PEG + A and SPMC. Bowel cleansing was assessed through the Boston Bowel Preparation Scale (BBPS) in total and right colon, Polyp Detection Rate (PDR), Adenoma Detection Rate (ADR), Serrated Detection Rate (SDR) and Colon Cancer Risk assessment by flexible endoscopy. For patients with a >3 precancerous lesions were compared using the χ²-test.
Results Data about 464 patients were collected: 231 assigned to AI and 233 to SC. Due to inadequate bowel cleansing, 22 patients (10 AI and 12 SC group) were excluded. PDR and ADR were both significantly higher in the AI group compared to SC group (respectively 81.9% [181/221] vs 71.5% [158/221], p = 0.01 and 69.2% [153/221] vs 60.2% [133/221], p = 0.04). Patients with advanced adenomas (i.e. villous histology, high-grade dysplasia or low-grade dysplasia >1cm) and patients with ≥3 precancerous lesions were compared between the groups using χ²-test.

Table 1 Cleansing success rates in total and right colon. PDR

<table>
<thead>
<tr>
<th>BBPS</th>
<th>1L PEG + A (n = 425)</th>
<th>SPMC (n = 451)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL COLON BBPS &gt; 6: 91 %</td>
<td>BBPS &gt; 6: 77 %</td>
<td>P &lt; 0.01</td>
<td></td>
</tr>
<tr>
<td>BBPS &gt; 7: 76 %</td>
<td>BBPS &gt; 7: 50 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RIGHT COLON BBPS &gt; 2: 92 %</td>
<td>BBPS &gt; 2: 82 %</td>
<td>P &lt; 0.01</td>
<td></td>
</tr>
<tr>
<td>BBPS &gt; 3: 58 %</td>
<td>BBPS &gt; 3: 27 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDR</td>
<td>46 %</td>
<td>42 %</td>
<td>P &gt; 0.05</td>
</tr>
</tbody>
</table>

2 % of patients presented vomiting with SPMC and 11 % with 1L PEG + A (p < 0.01). 5 % of patients had nausea with SPMC and 3 % with 1L PEG + A (p = 0.05). 3 % of the patients in 1L PEG + A had sodium levels > 147 mg/dl, all asymptomatic. 9 % of the patients in SPMC had sodium levels < 135 mg/dl. 5 women > 65 years had values > 130 mg/dl (one required emergency admission).

Conclusions Preparation with 1L PEG + A obtains optimal and high-quality bowel preparation compared to SPMC. Vomiting does not seem to affect the final efficacy of 1L PEG + A. In SPMC group, 5 cases of hyponatremia with clinical relevance were detected, which could make us assess changes in its use in patients over 65 years.

eP169 INCREMENTAL YIELD OF ARTIFICIAL INTELLIGENCE IN A FECAL OCCULT BLOOD TEST BASED ORGANIZED SCREENING POPULATION PROGRAM
Authors Pesatori E.V.1, 2, Milluzzo S.M.1, 2, Cesaro P.1, Piccirelli S.1, 2, Catino F.1, 2, Quadarella A.1, 2, Oliviari N.1, Minelli Grazioni L.1, Codazzi M.1, Bizziéro A.1, Hassan C.1, Spada C.1, 2
Institutes 1 Fondazione Policlinico Universitario A.Gemelli IRCCS – Università Cattolica del Sacro Cuore, Roma, Italy; 2 IRCCS Humanitas Research Hospital, Rozzano, Italy
Aims Fecal Occult Blood Test (FOBT) is the first line test in organized Colorectal Cancer (CRC) screening settings in several countries. Artificial Intelligence (AI) can potentially improve diagnostic performance of colonoscopy, reducing adenoma miss rate and interval CRC. The aim of the study was to compare the diagnostic yield of AI-assisted colonoscopy versus standard colonoscopy (SC).
Methods This is a single-center RCT evaluating consecutive patients undergoing colonoscopy in a FOBT based screening population program. Patients were randomly assigned to SC or AI. Subjects with ≤6 score at Boston Bowel Preparation Scale were excluded from analysis. Polyp Detection Rate (PDR), Adenoma Detection Rate (ADR), Serrated Detection Rate (SDR), patients with advanced adenomas (i.e. villous histology, high-grade dysplasia or low-grade dysplasia ≥1cm) and patients with ≥3 precancerous lesions were compared between the groups using χ²-test.
Results Data about 464 patients were collected: 231 assigned to AI and 233 to SC arm. Due to inadequate bowel cleansing, 22 patients (10 AI and 12 SC group) were excluded. PDR and ADR were both significantly higher in the AI group compared to SC group (respectively 81.9% [181/221] vs 71.5% [158/221], p = 0.01 and 69.2% [153/221] vs 60.2% [133/221], p = 0.04). Patients with advanced adenomas and with ≥3 precancerous lesions were increased in the AI group. SDR was slightly increased in the SC arm. See Table 1.
Conclusions AI improves ADR and PDR in a screening FOBT based setting. The impact of an AI supported colonoscopy in surveillance intervals needs to be further evaluated.

eP170 ROLE OF ARTIFICIAL INTELLIGENCE IN SMALL BOWEL CAPSULE ENDOSCOPY TRAINING

Authors Piccilli S.1, 2, Bizzotto A.2, Pesatori E.V.1, 2, Salvi D.1, 2, Tettoni E.1, 2, Belluardo N.1, 2, Spada C.1, 2
Institutes 1 Università Cattolica del Sacro Cuore, Rome, Italy; 2 Fondazione Policlinico Universitario “G. M. Salvatore Cardarelli”, Naples, Italy

Aims Reading of Small Bowel (SB) capsule videos still represents the main limitation since it requires time and prolonged attention, even more for novices. Artificial Intelligence (AI) in small bowel CE might represent a key strategy in routine clinical use or in a training setting. Primary aim of this study was to measure the inter-observer agreement among experts and novices performing standard or AI-assisted reading. Secondary aim was to evaluate reading time in both modalities.

Methods 10 videos of patients who performed SB CE (Navicam, Ankon, China) for suspected SB bleeding from July to September 2021 were retrospectively evaluated by 2 experts (> 500 cases) and 4 novices (<5 cases). One expert and 2 novices were randomized to blindly review videos in standard modality (SR) or evaluated by 2 experts (> 500 cases) and 4 novices (< 5 cases). One expert and 1 novice showed moderate to substantial agreement when compared to expert readers. Mean reading time using AI resulted significantly lower (p < 0.005, 95% IC) for both experts and novices (see the Table below).

Results Of 10 SB CE videos evaluated at per-patient analysis, expert readers reported the same main diagnoses (100% inter-observer agreement) whereas novices showed moderate to substantial agreement when compared to experts. Mean reading time using AI resulted significantly lower (p < 0.005, 95% IC) for both experts and novices (see the Table below).

Conclusions In a training setting, these preliminary data suggest that artificial intelligence significantly reduces the reading time of non-expert readers without affecting the overall accuracy and the inter-observer agreement.

Table 1 Comparison between AI group and SC group.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>AI</th>
<th>SC</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDR</td>
<td>81.9 % [181/221]</td>
<td>71.5 % [158/221]</td>
<td>0.01</td>
</tr>
<tr>
<td>ADR</td>
<td>69.2 % [153/221]</td>
<td>60.2 % [133/221]</td>
<td>0.04</td>
</tr>
<tr>
<td>SDR</td>
<td>14.9 % [33/221]</td>
<td>16.2 % [36/221]</td>
<td>0.69</td>
</tr>
<tr>
<td>ADVANCED ADENOMAS</td>
<td>25.3 % [56/221]</td>
<td>24.4 % [54/221]</td>
<td>0.82</td>
</tr>
<tr>
<td>≥3 ADENOMAS</td>
<td>30.8 % [68/221]</td>
<td>22.6 % [50/221]</td>
<td>0.05</td>
</tr>
</tbody>
</table>

eP171 ENDOSCOPIST DIRECTED PROPOFOL SEDATION IN EU5: PREDICTIVE FACTORS OF SEVERE ADVERSE EVENTS

Authors Huelin Álvarez P.1, Pijoan Comas E.2, 3, Miguel Salas I.1, Torres Vicente G.1, Alburquerque Miranda M.2, 3, Vargas García A.2, 3, Figa Francesch M.2, Zaragoza Velasco N.1, Reñé Espinet J.M.1, Gonzalez-Huix Lladó F.1, 2, Working Group on Sedation D SEE
Institutes 1 Hospital Universitari Arnau de Vilanova, Lleida, Spain; 2 Clínica Girona, Girona, Spain; 3 Hospital de Palamós, Palamós, Spain

Aims Severe adverse events including hypoventilation and laryngospasm during EUS are frequently related to the wider tip of the echoendoscopes.

AIM To determine predictive factors of adverse events during digestive EUS procedures in anesthetologist or endoscopist directed propofol sedation scenario.

Methods Analysis of a prospective bicentric registry 2018-2021. Diagnostic and therapeutic EUS procedures in consecutive patients were included. Type of sedation (endoscopist or anesthetologist), echoendoscope (radial/linear) and risk factors for complications of propofol sedation were recorded (ASA, OSAS, Performance status, facial characteristics, obesity, and associated comorbidity).

Results 735 patients were included (age: 65 ± 47 % women). Propofol: 310 ml (IQR: 220-435). Midazolam 0 ml (IQR: 0-2 ml). Severe adverse events occurred in 31 (4.2 %): 3 % laryngospasm, 1.4 % SatO2 < 95 %. Multivariate analysis detected Retroglossia (OR: 3.17; 95 %IC: 1.30-7.74), Anesthesiologist directed sedation (OR: 2.48; 95 %IC: 1.15-5.34) and OSAS (OR: 4.01; 95 %IC: 1.41-6.43) as predictive factors of severe adverse events.

Conclusions A trained sedation endoscopist team can administer propofol sedation in EUS with less adverse events than anesthesiologist directed sedation.

Table 1 Comparison between AI group and SC group.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>AI</th>
<th>SC</th>
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</tr>
</tbody>
</table>

Conclusions AI improves ADR and PDR in a screening FOBT based setting. The impact of an AI supported colonoscopy in surveillance intervals needs to be further evaluated.

eP172 VALIDATION OF REAL-TIME CAD SYSTEM FOR COLORECTAL POLYP DETECTION AND CHARACTERIZATION DURING COLONOSCOPY IN CROATIAN COHORT OF PATIENTS – PRELIMINARY DATA

Authors Prijic R.1, Grubelic Ravic K.1, Huml I.1, Skrlec I.1, Krvannec Z.1, 2
Institutes 1 University Hospital Center Zagreb, Division of Gastroenterology and Hepatology, Zagreb, Croatia; 2 University of Zagreb, Medical School, Zagreb, Croatia

Aims From January to February 2021 real-time computer-aided diagnosis (CAD) system (Fujifilm CAD EYE) for polyp detection (CADe) and characterization (CADx) was used in an out-patient clinic for colonoscopy procedures for validation in Croatian cohort of patients. This system works with integrated image enhancement technologies for supporting detection and characterization.

Methods Procedures were performed by 4 experienced endoscopists. All polyps detected during colonoscopy were resected and sent for pathologic analysis separately. Data regarding real-time detection and characterization of polyps was compared with obtained pathohistological analysis.

Results 52 patients (31/52, 59.6 % male, mean age 59 ± 12 years) were recruited. Polyps were detected in 47 (90.4 %) patients with total of 103 polyps found. 51 detected polyps (49.5 %) were characterized as neoplastic. Pathohistological reports found 53 (51.4 %) neoplastic lesions (adenoma) with 59.6 % of patients having at least 1 adenoma. Comparing CADx data to histological reports found 53 (51.4 %) neoplastic lesions (adenoma) with 59.6 % of patients having at least 1 adenoma. Comparing CADx data to histological reports, in our cohort of patients CADx showed sensitivity, specificity, and accuracy of 85.48 %, 87.72 % and 86.55 %, respectively. CADx system did not work so well in the context of identifying residual adenomatous tissue after the polyp resection because of the interfering blood.

Conclusions These preliminary data in Croatian patients confirm good polyp characterization using AI-based CAD system. Further evaluation in real-world setting on a larger number of patients will give us more robust evidence for
confident use. Future standardization and advancement in technology for using this system for immediate detection of residual adenomatous tissue after the piece-meal polypectomy could improve completeness of polypectomy in ever-day setting.

**eP173  VALIDATION OF THE TEAM-ENTS (TEAMWORK IN ENDOSCOPY ASSESSMENT MODULE FOR ENDOSCOPIC NON-TECHNICAL SKILLS) FRAMEWORK**

**Authors** Ravindran S.1, 2, 3, Healey C.1, Coleman M.1, Ashrafian H.3, Haycock A.2, Archer S.4, Darzi A.3, Thomas-Gibson S.5

**Institutes** 1 Joint Advisory Group on Gastrointestinal Endoscopy, London, United Kingdom; 2 St Mark’s Academic Institute, Wolfson Unit for Endoscopy, London, United Kingdom; 3 Imperial College London, Surgery and Cancer, London, United Kingdom; 4 Cambridge University, Public Health and Primary Care, Cambridge, United Kingdom; 5 Imperial College London, Metabolism, Digestion and Reproduction, London, United Kingdom

**Aims** We previously developed a novel team-based non-technical skills framework in endoscopy known as TEAM-ENTS (Teamwork in Endoscopy Assessment Module for Endoscopic Non-Technical Skills). The aim of this study was to establish face and content validity of the tool.

**Methods** A multidisciplinary group of endoscopists, nurses, screening practitioners and trainees were recruited to refine items of the framework in a modified Delphi process. Items from the framework were presented as elements (subsets of overriding categories) and behavioural descriptors. Panel members rated items against a 4-point Likert Scal and were able to leave free text comments. The content validity index (I-CVI) was calculated for each item and a result of >0.79 indicated acceptance. Two rounds were conducted.

**Results** In total, 58 participants from the UK and Ireland were recruited. There were 24 consultant endoscopists (41%), 14 clinical/nurse endoscopists (24%), 11 nurses (19%; including manager and screening practitioner roles) and 9 trainee endoscopists (16%). Median duration of experience in role was 14 years (IQR 7.75 – 20). There was a 5% attrition rate between rounds. In the first round, 9 elements and 37 behavioural descriptors did not meet consensus index (I-CVI<0.79). In total, 36 items were adjusted, 7 items were merged and 3 items were deleted. Remaining items met consensus thresholds after the second round (I-CVI≥0.79). The refined TEAM-ENTS BMS now consists of 5 categories, 16 elements and 47 behavioural descriptors.

**Table 1**

<table>
<thead>
<tr>
<th>COMMUNICATION</th>
<th>1. Information exchange</th>
<th>1. Effective information exchange between team members</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Maintaining open dialogue</td>
<td>2. Maintaining open lines of communication between team members</td>
</tr>
<tr>
<td></td>
<td>3. Patient communication</td>
<td>3. Communicating with the patient (if able to do so)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLANNING, DECISION-MAKING &amp; PROBLEM-SOLVING</th>
<th>1. Preparation</th>
<th>1. Preparing team members for events and actions, Ensuring everyone is ready</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Shared decision-making</td>
<td>2. Collaborative decision-making between relevant team members, adaptable to the situation</td>
</tr>
<tr>
<td></td>
<td>3. Reviewing outcomes</td>
<td>3. Debriefing procedure(s) to review outcomes and promote learning</td>
</tr>
</tbody>
</table>

**LEADERSHIP & COORDINATION**

| 1. Control and responsibility | 1. Maintaining control and responsibility over a situation |
| 2. Role delegation | 2. Team members aware of roles and skill mix |
| 3. Team adaptability | 3. Adapting the team to the situation or task and recognising when help is required |

**SITUATION AWARENESS**

| 1. Problem recognition and focus | 1. Detection of issues, having a wider awareness of the environment and maintaining focus |
| 2. Shared understanding | 2. Ensuring the team have a shared understanding of events throughout the procedure |
| 3. Anticipating events | 3. Anticipating future outcomes and reacting appropriately |

**TEAMWORK, COOPERATION & SUPPORT**

| 1. Teambuilding and mutual respect | 1. Building the team to be a functioning unit, developing mutual respect between team members |
| 2. Cohesion | 2. Team members working together, valuing each other and conflict resolution |
| 3. Support | 3. Team members helping each other and seeking support if necessary |
| 4. Empowerment | 4. Appropriate expression of opinion and receptiveness to feedback or opinion, empowering team members to contribute |

**Conclusions** The TEAM-ENTS framework has been validated by a multidisciplinary group to reflect the core non-technical skills and behaviours relevant to endoscopy teams.

**eP174  ENDORAIL ADD-ON DEVICE FOR SOLVING COLON LOOPS: PROOF OF CONCEPT IN A PHANTOM COLON.**

**Authors** Repici A.1, 2, Spadaccini M.2, Vespa E.1, Bhandari P.3, Sharma P.4, Maselli R.1, Hassan C.1, 2

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**Aims** Incomplete colonoscopy can result in missed colorectal cancer. Looping is a main cause for difficult and incomplete colonoscopy. The aim of this study is to assess the capability of Endorail to solve colon loops in a phantom model.

**Methods** Endorail (Endostart srl, Certaldo, Firenze, Italy) is composed by a handpiece containing a magnet, a balloon catheter and ferromagnetic fluid (water based iron powder dispersion) prefilled syringe. A colonoscope was arranged in alpha loop, reverse alpha loop and N-loop configurations in plastic colon phantom. Endorail procedure was conducted and successful loop reduction and procedure time were assessed.
Results Endorial was capable of successfully solve all colonoscope loop configurations according to the following procedure: the balloon catheter is advanced through the tool channel beyond the tip of the colonoscope; the balloon is inflated with 25 mL of ferromagnetic fluid; the handpiece is applied over the phantom abdomen to magnetically anchor the balloon; fast retraction of the colonoscope tip until the rectum allows to solve the loop and straighten the colon; retraction of the balloon catheter coupled with gentle insertion of the colonoscope allows the colonoscope to quickly advance through the catheter; once the colonoscope tip reaches the inflated balloon, the handpiece is removed and the balloon is deflated and withdrawn (mean time 2.50 min).

Conclusions We demonstrated the Endorial capability of solving colonoscope loops in a laboratory setting and indicate that Endorial has the potential to facilitate fast and easy loop reduction and colonoscopy completion also in clinical setting.

eP175 AN ASSESSMENT OF THE COMPLIANCE WITH THE UPPER GASTROINTESTINAL BLEED CARE BUNDLE IN AN INPATIENT SETTING WITH DAILY ENDOSCOPY LISTS

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Aims To assess whether the British Society of Gastroenterology Upper Gastrointestinal Bleed (UGIB) bundle [1] was being followed in a centre with access to emergency endoscopy lists between Monday-Friday.

Methods We reviewed notes of all patients referred as an UGIB who proceeded to endoscopy between August 2020-February 2021. 113 patients were identified, of these 8 had a background of cirrhosis. We collected data attaining to each recommendation in the care bundle, including time to endoscopy, whether a Glasgow-Blatchford score (GBS) was calculated, whether intravenous fluids (IVF) and blood products were given, whether cirrhotic patients received antibiotics and terlipressin and if, a treatment was given, at least 2 methods of haemostasis were applied.

Results Average time from referral to endoscopy was 23.6 hours. 58% of patients underwent endoscopy within 24 hours of referral. Of patients admitted over the weekend, average time to scope was 38 hours. All patients with Hb<70 received blood transfusion. 21 patients had endoscopic therapy, 12 had at least dual therapy. GBS was calculated for 42% of patients. 68% were given IVF (in 2 patients it was considered contraindicated due to comorbidities). Of the cirrhotic patients, 57% were given terlipressin and antibiotics.

Conclusions In a centre with accessible emergency endoscopy lists, we are able to comply with the UGIB care bundle guidance on timing of endoscopy. Significant delays in endoscopy were identified for patients presenting over the weekend. Compliance with other aspects of the care bundle was variable and leaves scope for further education to optimise patient outcomes.

eP176 NEW COMPACT ULTRASOUND ENDOSCOPE FOR PERFORMING ADVANCED ENDOSCOPIC PROCEDURES ADAPTABLE TO STANDARD GASTROSCOPES: FIRST HUMAN EXPERIENCE

Authors Robles-Medranda C.1, Arevalo-Mora M.1, Mendez J.C.2, Puga-Tejada M.1, Alcivar-Vasquez J.1, Del Valle R.1, Cohn J.2, Corbett S.2, Steinberg S.2
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DOI 10.1055/s-0042-1745029

Aims Endoscopic ultrasound (EUS) allow real-time assessment, diagnosis, and endoscopic treatment of the gastrointestinal (GI) tract with high-resolution imaging. Recently, a new, portable, low-cost concept of EUS device system has been developed to fasten onto any standard gastroscope. We aim to determine the feasibility, effectiveness, and safety of a new, single-use, EUS device system for visualization of GI anatomic structures and the performance of endoscopic procedures.

Methods We reported a prospective pilot study using this new, add-on, EUS device system, of the first five human cases referred for EUS-guided evaluation, between October and November 2021. Patients >18 years underwent two consecutive procedures: first, a standard EUS (5-EUS) intervention using a therapeutic linear echoendoscope (Pentax EG38-J10UT; Pentax Medical, Hamburg, Germany), Pentax video processing (EPK-I7010), attached to an ultrasound console (Arietta 850 Hitachi, Tokyo, Japan); and a second intervention, with a new adaptable EUS (N-EUS) using a therapeutic linear endoscope (EC-2900I10, Pentax Medical, Hamburg, Germany) attached to a dedicated compact ultrasound beamformer (EndoVision Vision System (EVS), EndoSound, Portland – Oregon, USA).

Results Optimal endoscopic procedure performance and high-quality visualization of all anatomical structures was achieved with N-EUS. 1/5 patients required EUS-guided fine needle biopsy (EUS-FNB) due to a pancreatic head lesion (Figure 1). EUS-FNB was performed with 5-EUS and N-EUS; pancreatic adenocarcinoma was confirmed in both samples. No immediate post-procedural complications were reported.

Conclusions This new EUS system may be a feasible, effective, and safe alternative for accurately performing therapeutic endoscopic procedures with high-quality imaging.

eP177 REAL-TIME COMPUTER-AIDED POLYP/ADENOMA DETECTION DURING SCREENING COLONOSCOPY: A SINGLE-CENTER DIAGNOSTIC TRIAL

Authors Robles-Medranda C.1, Cifuentes-Gordillo C.1, Arevalo-Mora M.1, Mendez J.C.2, Puga-Tejada M.1, Baquerizo-Burgos J.1, Del Valle R.1, Alcivar-Vasquez J.1, Alvarado H.1, Merfea R.C.1, Barreto Perez J.1, Rodriguez J.1, Calle-Loffredo D.1, Lukashok H.P.1
Institutes 1 Instituto Ecuatoriano de Enfermedades Digestivas, Guayaquil, Ecuador; 2 Micongroup, Artificial Intelligence Department, Guayaquil, Ecuador

Aims Several factors affect polyp/adenoma detection rate (i.e., bowel preparation). The Discovery Artificial Intelligence assisted polyp detector (Pentax Medical, Hoya Group) was recently launched for clinical practice. We aim to evaluate the real-world effectiveness of AI assisted colonoscopy on clinical practice.

Methods Consecutive patients >45 years old who underwent HD colonoscopy (Nov/2020-Mar/2021). A first operator assessed only with HD colonoscopy, and a second operator (blinded to previous findings) with an AI-assisted HD colonoscopy. The study protocol was approved by the local Institutional Review Board. Data was analyzed in R v4.0. NCT04915833.

Results 115 colonoscopies were performed in 115 patients. The polyp and adenoma detection rate were 132 (64.3) and 73 (35.6%), respectively detected in 58/115 (50.4%) patients: 19/205 (9.3%) NICE II, 7/205 (3.4%) >10 mm (Table 1). From them, 44 polyps and 4 adenomas were detected by the second operator assisted by AI. Frequency of patients with polyps/adenomas appropriately detected by AI (sensitivity) among different colon segments ranged from 56.25 % (rectum) to 78.26 % (ascending colon). Meanwhile, capability of AI for appropriate polyp/adenoma presence discharging (negative predictive value, NPV) ranged from 61.54 % (sigmoid) to 89.09 % (cecum). However, there was observed lower rates for specificity (8.42-49.49 %) and positive predictive value (PPV, 9.89-19.78 %) due to high false positive (Figure 1).
Results A total of 30 patients underwent EUS-RFA; 4/30 were excluded. 26 cases were analyzed. At diagnosis, 15/26 (57.7%) with locally advanced (T4NXM0) and 11/26 (42.3%) with metastatic disease (M1). Technical success was achieved in all patients with no major adverse events. Posttreatment lesion median large diameter reduced to 26 mm ($P = 0.04$). Six-month survival rate was 11/26 (42.3%), ECOG 0-1 ($P = 0.03$), Disappearance/necrosis and > 50% diameter decrease with CT/MRI was identified in 11/11 (100%) and 5/11 (45.5%), respectively. Median OS was 7 (4 – 12) months. Metastatic disease was a significant factor for worsening survival (HR 5.021; IC 95% 1.589 – 15.87; $P = 0.003$) (Figure 1).

Conclusions EUS-RFA of pancreatic adenocarcinoma is a minimally invasive, safe, and effective modality. Due to its cytoreductive effect, RFA may play a role in downstaging cancer, providing symptomatic relief, with potential OS increase in non-metastatic cases.

### Table 1 Polyp/adenoma characterization.

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Rectum/ Sigmoid/ Descending</th>
<th>Transverse/ Ascending</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 205)</td>
<td>(n = 100)</td>
<td>(n = 105)</td>
</tr>
<tr>
<td>Nice</td>
<td>186 / 19 / -</td>
<td>92 / 8 / -</td>
<td>94 / 11 / -</td>
</tr>
<tr>
<td>Size</td>
<td>132 / 66 / 7</td>
<td>85 / 15 / -</td>
<td>47 / 51 / 7</td>
</tr>
<tr>
<td>Removal</td>
<td>181 / 16 / 8</td>
<td>87 / 10 / 3</td>
<td>94 / 6 / 5</td>
</tr>
</tbody>
</table>

Conclusions The Discovery Artificial Intelligence is a feasible tool to aid endoscopists during screening colonoscopy. However, high rate of false positive limits its overall accuracy. Development of this technology with more normal colonoscopies videos could decrease false positive rate, increasing overall accuracy.

eP178 SAFETY, PERFORMANCE STATUS, LOCAL CONTROL, AND OVERALL SURVIVAL AFTER ENDOSCOPIC ULTRASOUND-GUIDED RADIOFREQUENCY ABLATION OF UNRESECTABLE PANCREATIC ADENOCARCINOMA: A SINGLE-CENTER HISTORIC COHORT STUDY

Authors Robles-Medranda C.1, Del Valle R.1, Puga-Tejada M.1, Arevalo-Mora M.1, Estrada-Guevara L.1, Bunces-Orellana O.1, Moreno-Zambrano D.1, Egas-Izquierdo M.1, Alciar-Vasquez J.1, Cifuentes-Gordillo C.1, Alvarado H.1, Merfe R.C.1, Barreto Perez J.1, Rodriguez J.1, Calle-Loffredo D.1, Lukashok H.P.1

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Aims Endoscopic ultrasound-guided radiofrequency ablation (EUS-RFA) has emerged as an alternative for pancreatic cancer local treatment. However, its adverse events and oncological endpoints as performance status (PS), local control (LC) and overall survival (OS), require further understanding. Our study pursues clinical experience of EUS-RFA for pancreatic adenocarcinoma local treatment in terms of safety, PS, LC, and OS.

Methods Baseline data from patients attended from October 2019 to May 2021 was retrospectively recovered. EUS-RFA was performed with a 19-g needle electrode (Starmed; Taewoong Medical, Seoul, South Korea). With a fanning technique RFA, energy was applied in 10 second cycles. Repeated sessions were performed in 4 weeks intervals (3 sessions maximum).

Conclusions EUS-RFA of pancreatic adenocarcinoma is a minimally invasive, safe, and effective modality. Due to its cytoreductive effect, RFA may play a role in downstaging cancer, providing symptomatic relief, with potential OS increase in non-metastatic cases.

eP179 GASTROINTESTINAL ENDOSCOPY, HOSPITAL DELIVERY SETTING, PROCEDURES PER DAY AND LOCAL INCIDENCE INCREASE THE RISK FOR SARS-COV-2 INFECTION IN HEALTH CARE WORKERS IN AEROSOL-GENERATING DISCIPLINES

Authors Kömmele C.1, Ebigo A.1, Kahn M.3, Zellmer S.1, Muzalyova A.1, Hammel C.2, Bartenschlager C.2, Beyer A.4, Rosendahl J.1, Schlittenbauer T.9, Zenk J.1, Al-Nawas B.6, Frankenberger R.3, Hoffmann J.10, Arens C.11, Lammer F.12, 13, Traidl-Hoffmann C.14, Messmann H.1

Institutes 1 University Hospital Augsburg, Hospital for Internal Medicine III – Gastroenterology and Infectious Diseases, Augsburg, Germany; 2 Helmholtz Zentrum München, Institute of Environmental Medicine, Neuperb, Germany; 3 University Augsburg, Chair of Health Care Operations/Health Information Management, Augsburg, Germany; 4 Medical Practice for Gastroenterology and Gastrointestinal Oncology, Altötting.
Results 65.1 % of the patients were over 50 years old and 34.9 % under 50 years old. Indications for colonoscopy were dominated by constipation in group B 829.1 % (vs 22.2 %; p = 0.01), and by diarrhea in group A 33.3 % (vs 19.3 %; p < 0.001). Colonoscopy was pathological in 49.1 % of patients in group B vs 32.9 % of patients in group A (p < 0.001), dominated by colitis or rectocolitis (47.9 %) in subjects under 50 years of age 11.7 %; p < 0.001, polyps (61.5 % vs 41.3 %; p < 0.001) and colorectal neoplasia (16.5 % vs 5 %; p = 0.002) in older subjects. The indications associated with a higher risk of neoplastic lesions were constipation in subjects < 50 years (p = 0.007) and rectal bleeding and constipation (p < 0.001) in subjects > 50 years.

Conclusions The presence of colorectal neoplastic lesions was strongly associated with the presence of constipation in subjects < 50 years and with both rectorrhagia and constipation in subjects > 50 years. Determining these indications in more studies may help to improve the appropriateness of colonoscopy mainly in younger people.

eP181 WHAT IS THE CONTRIBUTION OF COLONOSCOPY IN PATIENTS WITH MELENA AND NORMAL UPPER GASTRO-INTESTINAL ENDOSCOPY?

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Aims The origin of melema is located upstream of the right colon, their etiologies are multiple, ranging from a simple gastric ulcer to a tumor lesion. The first-line examination for melena is oeso-gastro-duodenal endoscopy, but when it is normal, other endoscopic explorations are necessary, notably total colonoscopy.

The aim of our study is to report the role of colonoscopy in the etiological diagnosis of melena with normal upper gastrointestinal endoscopy; as well as the associated factors.

Methods This is a retrospective descriptive and analytical study, between January 2018 and August 2021, including 40 patients who underwent colonoscopy for melena with a normal upper gastro-intestinal endoscopy. Patients with known IBD were excluded from our study.

Results 1,158 patients underwent colonoscopy, of which 2.6 % were for melena. The average age of our patients was 64 years +/- 14.11; with a sex ratio (M/F) of 1.5.

Colonoscopy was normal in 43.6 % of cases, when it was pathological (56.4 %) it showed: colonic angiodysplasia in 42.9 %, colonic diverticulosis in 28.6 %, recto-colonal polyps in 25 %, an aspect of colitis in 9.5 % and a colorectal process in 5 % of patients. In univariate analysis, the factors associated with a pathological result at colonoscopy for melena were: age (p = 0.004); the presence of associated constipation (p = 0.009) and diarrhea (p < 0.015).

In multivariate analysis, no factor was found to be statistically significantly related to pathological colonoscopy.

Conclusions Melena is a life-threatening diagnostic and therapeutic emergency. When the upper gastro-intestinal endoscopy is normal, colonoscopy is always recommended. In our study, the endoscopic findings were dominated by colonic angiodysplasia, colonic diverticulosis and colorectal polyps.
The aim of the study was to describe the impact of the COVID-19 pandemic on the digestive endoscopic activity in our department by comparing it to the previous year.

**Methods** We performed a retrospective study, comparing endoscopic procedures performed (excluding emergencies) in both 2019 and 2020, especially the periods from March 20 to June 30 (lockdown period). Statistical analysis was performed by SPSS 21.0 software.

**Results** 5018 endoscopy procedures were performed in 2019 and 2020, but only 1869 performed in 2020. For the lockdown period, a large decrease in the number of patients undergoing endoscopy was seen in 2020 compared with 2019 (179 vs. 863). Gastroscopy, colonoscopy, and rectosigmoidoscopy volumes experienced a 59%, 53%, and 67% reduction, respectively. A reduction of 50% in the number of echo-endoscopy was also seen, especially during the lockdown period 11 versus 21 in 2019 (p = 0.006), whereas the number of ERCPs remained relatively unchanged, with 22 during the lockdown period versus 29 in 2019 (p = 0.001).

We also compared the different endoscopy procedures performed during the post-lockdown period compared to the same period in 2019.

**Conclusions** The COVID-19 pandemic had a significant impact on endoscopy services, its staff and especially on patients following the reduction and limitation of endoscopy indications and procedures.

### Table 1

| Male gender | 89 (62.2%) |
| Age (mean ± SD, range, in years) | 70.4 ± 11.3 (28-92) |
| Outpatient referral | 86 (60.1%) |
| Days between diagnosis and ER scheduling (median, IQR;min-max) | 100 (89.2-248) |

**Conclusions** Neither the histological outcome nor the ER scheduling delay were significantly impacted during the COVID-19 pandemic in our unit. Further studies are needed to consider ER accessibility as an additional quality criterion.

### eP183 ACCESSIBILITY TO ENDOCOPIC RESECTION OF COLORECTAL NEOPLASTIC LESIONS ≥ 20MM IN A REFERRAL CENTER: WHAT WAS THE COVID-19 PANDEMIC IMPACT?

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**DOI** 10.1055/s-0042-1745036

**Aims** Advanced endoscopic resection (ER) for complex colorectal polyps is accessible only in referral centers. Accessibility is not yet stated in quality European guidelines for colonoscopy. We aim to compare ER scheduling with lesion’s histology and evaluate the COVID-19 pandemic impact.

**Methods** Retrospective study including patients with colorectal neoplastic lesions ≥ 20mm, scheduled for ER in a Gastroenterology referral department, from September 2019 to September 2020, comparing the pre-pandemic period (until March 18th, 2020) with COVID-19 pandemic period. Histology was classified as no dysplasia/low-grade dysplasia versus high-grade dysplasia/carcinoma (high-risk lesions).

**Results** Included 143 patients (47 in the pre-pandemic group versus 96 in the pandemic period), corresponding to 156 lesions. Sixty-three (40.4%) were high-risk lesions. Table 1 describes overall population’s characteristics. There was no statistically significant difference between gender, age and referral origin when compared to histology (p = 0.383, 0.744 and 0.602, respectively). The referral-scheduling interval was similar in both histologic groups (108 vs 95 days, p = 0.129). Scheduling delay over 60 and 90 days did not correlate with advanced histology (p = 0.369 and p = 0.414, respectively).

There was no significant difference between referral-scheduling delay in the pre and pandemic periods (98 vs 100 days, p = 0.525). High-risk histology was not more frequent in the pandemic period (p = 0.858).

### eP184 ARTIFICIAL INTELLIGENCE (AI) – ASSISTED VESSEL AND TISSUE RECOGNITION IN THIRD-SPACE ENDOSCOPY

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**Institutes** 1 Augsburg University Hospital, Department of Gastroenterology, Augsburg, Germany; 2 Ostbayernische Technische Hochschule, Regensburg Medical Image Computing (ReMIC), Regensburg, Germany

**DOI** 10.1055/s-0042-1745037

**Aims** Third-space endoscopy procedures such as endoscopic submucosal dissection (ESD) and peroral endoscopic myotomy (POEM) are complex interventions with elevated risk of operator-dependent adverse events, such as intra-procedural bleeding and perforation. We aimed to design an artificial intelligence clinical decision support solution (AI-CDSS, “Smart ESD”) for the detection and delineation of vessels, tissue structures, and instruments during third-space endoscopy procedures.

**Methods** Twelve full-length third-space endoscopy videos were extracted from the Augsburg University Hospital database. 1686 frames were annotated for the following categories: Submucosal layer, blood vessels, electrosurgical knife and endoscopic instrument. A DeepLabv3 + neural network with a 101-layer ResNet backbone was trained and validated internally. Finally, the ability of the AI system to detect visible vessels during ESD and POEM was determined on 24 separate video clips of 7 to 46 seconds duration and showing 33 predefined vessels. These video clips were also assessed by an expert in third-space endoscopy.

**Results** Smart ESD showed a vessel detection rate (VDR) of 93.94%, while an average of 1.87 false positive signals were recorded per minute. VDR of the expert endoscopist was 90.1% with no false positive findings. On the internal validation data set using still images, the AI system demonstrated an intersection over Union (IoU), mean Dice score and pixel accuracy of 63.47%, 76.18% and 86.61%, respectively.

**Conclusions** This is the first AI-CDSS aiming to mitigate operator-dependent limitations during third-space endoscopy. Further clinical trials are underway to better understand the role of AI in such procedures.

### eP185 EFFECTIVE REDUCTION OF ESOPHAGEAL STENT MIGRATION RATE WITH A NOVEL OVER-THE-SCOPE FIXATION DEVICE (STENTFIX OTSC)

**Authors** Schiener M.1, Bettgering D.1, Mueller J.1, Schultheiss M.1, Schwacha H.1, Hasselblatt P.1, Thimme R.1, Schmidt A.1, Kuellmer A.1

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**DOI** 10.1055/s-0042-1745038

**Aims** Self-expandable metal stent (SEMS) placement is routinely performed in a variety of benign and malignant gastrointestinal diseases. One of the most
frequent adverse events after esophageal SEMS placement is stent migration. We evaluated a novel over-the-scope clip device (stentfix OTSC, Ovesco Endoscopy, Tuebingen, Germany) designed and approved for SEMS fixation.

Methods This single-center retrospective observational cohort study was performed to analyze stent migration rates before and after availability of the stentfix OTSC device. A cohort of patients who consecutively underwent SEMS fixation with the stentfix OTSC system (SF cohort) was compared with a historical cohort of patients who did not receive stentfix OTSC fixation or any other stent fixation method (NF cohort) before the stentfix OTSC system became available. Outcome variables including technical success, adverse events and clinical success were analyzed.

Results A total of 77 patients (SF cohort: n = 26, NF cohort: n = 51) underwent esophageal SEMS implantation for malignant (69 %) and benign (31 %) conditions. The technical success rate of stent fixation was 100 % and no procedure-related adverse events were observed. The stent migration rate was significantly lower in the SF cohort compared to the NF cohort (8.3 % vs. 35.4 %, p < 0.001). Stent implantation across the gastroesophageal junction was identified as a predictor of stent migration.

Conclusions The stentfix OTSC system effectively prevented stent migration in a variety of benign and malignant gastroesophageal diseases. The application was technically successful in all cases and no adverse events related to clip application or removal were observed.

### eP186 INTEGRATING PATIENT-ANALOGUE BILIARY ANATOMY FOR EXISTING HUMAN-BASED ARTIFICIAL ERCP TRAINING MODEL – ADVANTAGES OF 3D PRINTING TECHNOLOGY

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**DOI** 10.1055/s-0042-1745039

**Aims** ERCP (endoscopic retrograde cholangiopancreatography) is a challenging endoscopic procedure which requires profound anatomical and technical knowledge combined with optimal diagnostic and therapeutic experience as well as a good manual dexterity. Because ERCP is usually performed with therapeutic intent, training in this area remains a major challenge. The learning curve is often played out on the patient. Beyond that, the variety of different bile duct anomalies could not even be roughly reproduced in training models so far.

**Methods** The hands-on ERCP training phantom from Tübingen, Germany, is an artificial model based on human anatomy, allowing repetitive basic and advanced training under clinical conditions. In this training system, simulation of even complex anatomy and pathology is now incorporated using 3D printing technology. The modeling of human scans into printable data opens a new horizon to patient-analog, safe and ethical correct training. As the system is modular, new anatomy can be exchanged in a reusable way.

**Results** The evaluation of the mentioned model showed that beginners and experts alike rated the phantom outstandingly good, also compared to known ERCP training models. As planned complex biliary anatomy could be incorporated and visualized using x-ray in the existing model.

**Conclusions** The constantly further optimized ERCP training phantom from Tübingen, Germany, with the recent integration of complex bile duct anatomy improves the training system even more. We believe to reach a new dimension of training, which will undoubtedly benefit the education and training as well as the competence of interventional endoscopists.

### eP187 ASSESSMENT OF QUALITY PERFORMANCE MEASURES FOR ENDOSCOPIC RETROGRADE CHOLANGIPANCREATOMOGRAPHY

**Authors** Serrano Dueñas M.1, Domper Bardaji F.1, De la Santa Belda E.1, Ramírez Esteso F.1, Rodríguez González M.1.  
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**DOI** 10.1055/s-0042-1745040

**Aims** To analyze the technical performance in ERCP procedures in a tertiary center.

**Methods** We performed a prospective registry of ERCP procedures in a tertiary center from October 2020. Included a one-month follow-up for evaluating complications. We present a preliminary analysis of those procedures performed until May 2021. The final number consisted of 170 interventions. We assessed the measures and compared them to the standard proposed by the European Society of Gastrointestinal Endoscopy.

**Results** They were 51 % women. The age ranged from 28-95 years, with a median of 77. The most frequent diagnosis was cholecystolithiasis in 102 cases and distal malignant biliary obstruction in 21 cases. There were up to 27 procedures with alternative diagnoses: normal cholangiography or a dilated bile duct without stones or stenosis. A native papilla was present in 116 patients, bile duct cannulation at first attempt was achieved in 106 patients. Incidence of post ERCP complications was: pancreatitis 3 % (5); cholangitis 2.4 % (4); bleeding 5.4 % (9; seven on anticoagulant/antiplatelet treatment), there were no perforations. Table 1 presents the assessment of the key performance measures.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Evaluation of ERCP performance measures (left column) compared to the minimum standard recommended (right column).</th>
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<tbody>
<tr>
<td>Adequate antibiotic profilaxis</td>
<td>100 %</td>
</tr>
<tr>
<td>Bile duct cannulation (native papilla)</td>
<td>91.4 %</td>
</tr>
<tr>
<td>Stent placement in distal biliary obstruction</td>
<td>96 %</td>
</tr>
<tr>
<td>Bile duct stone extraction (&lt; 10 mm)</td>
<td>86 %</td>
</tr>
<tr>
<td>Post-ERCP pancreatitis</td>
<td>3 %</td>
</tr>
</tbody>
</table>

**Conclusions** This is the first time we conduct such an auditory in our center. Monitoring of adherence to quality indicators will allow us to improve our results; starting with an appropriate selection of patients.

### eP188 NURSE-LED ENDOSCOPIC TRIAGE OF THE SUSPECTED UPPER GASTROINTESTINAL CANCER REFERRALS DURING THE COVID-19 PANDEMIC

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**DOI** 10.1055/s-0042-1745041

**Aims** The COVID-19 pandemic had a profound negative impact on endoscopic services and capacity leading to concerns regarding delayed cancer diagnosis. We aimed to assess the efficacy and outcomes of nurse-led endoscopic telephone triage of suspected upper gastrointestinal (UGI) cancer referrals.

**Methods** We prospectively collected data of consecutive patients referred for urgent endoscopy through the suspected UGI cancer pathway between April 2020 and August 2021 at a large district general hospital. All patients underwent a telephone triage by the UGI nurse practitioner according to the national guidelines. Patients’ demographics, indications for referrals, endoscopy and radiology reports were reviewed and analysed.
Results A total of 809 patients were included (median age 66 (IQR 56–76) years, 56.6 % female). Dysphagia (35.2 %), weight loss (34.3 %) and reflux (32.5 %) were the most common indications for referrals. 80 % (n = 574) of patients were triaged to urgent endoscopy, 3.3 % (n = 27) were downgraded to routine endoscopy, 15.6 % (n = 127) to barium swallow, 1.7 % (n = 14) to urgent computed tomography (CT) and 8.2 % (n = 67) discharged without further investigations. 4.3 % (n = 35) of patients were diagnosed with UGI cancers of whom 84.3 % (27/32) were diagnosed on urgent endoscopy, 3.1 % (1/35) on barium swallow, 12.5 % (4/35) on urgent CT and 8.5 % (3/35) were known to have cancer. None of the patients triaged to routine endoscopy were found to have cancer.

Conclusions The nurse-led telephone triage significantly reduced the number of endoscopic procedures without affecting the diagnostic yield for UGI cancer. Adopting this model will reduce the burden on endoscopy units in the post-pandemic recovery phase.

eP189 DIAGNOSTIC YIELD OF ENDOSCOPY IN ASYMPTOMATIC PATIENTS WITH NON-IRON DEFICIENCY ANAEMIA

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Aims Endoscopic evaluation of the gastrointestinal (GI) tract is indicated for asymptomatic patients with iron deficiency anaemia (IDA) to rule out GI malignancy. However, there is a paucity of evidence for endoscopy in anaemic patients without iron deficiency (non-IDA). Our aim was to compare the diagnostic yield of endoscopy in asymptomatic patients with non-IDA compared to those with IDA.

Methods We retrospectively collected data of 847 consecutive patients referred for endoscopy with anaemia between January and December 2019 at a district general hospital. Demographics, endoscopy reports and laboratory tests were reviewed. Patients with gastrointestinal symptoms or incomplete data were excluded.

Results A total of 527 patients were included, 415 had evidence of IDA and 112 had non-IDA. Patients with IDA were younger (median age 72 vs. 76 years, p = 0.005) and more likely to be female (72 % vs. 59 %, p = 0.01). Both groups had similar median serum haemoglobin (109 vs. 108, p = 0.22). Gastritis (35.2 %) and oesophagitis (25.7 %) were the most common endoscopic diagnoses in both groups. Upper GI cancers were found in 0.7 % (3/415) of patients with IDA compared with 1.7 % (2/112) of patients with non-IDA (p = 0.06). Colorectal cancers were found in 3.3 % (9/269) of patients with IDA compared with 1.5 % (1/65) of patients with non-IDA (p = 0.69). In multivariate analysis, age (OR 0.94, 95 % CI 0.89–0.98, p = 0.01) and haemoglobin (OR 1.03, 95 % CI 1.01–1.05, p = 0.004) were associated with malignancy.

Conclusions The diagnostic yield of endoscopy in asymptomatic patients with non-IDA is similar to those with iron deficiency anaemia. Prospective studies are required to confirm our findings.

eP190 USEFULNESS OF MAGNETIC ENDOSCOPE IMAGING (MEI) FOR COLONOSCOPIC TRAINING; SINGLE CENTER RANDOMISED CONTROLLED TRIAL

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Aims Loop formation is a common event that occurs frequently during colonoscopy. The development of looping can cause pain and discomfort to the patient and make advancement of the colonoscope difficult. The magnetic endoscope imaging (MEI) is built in to show that with its use outcomes are improved during colonoscopy. Aim of this study is to evaluate the usefulness of the Scopeguide Assist for trainee endoscopists with respect to the number of loop formation.

Methods This study included a randomized controlled trial of 70 patients who were undergoing a colonoscopy at the endoscopic units of the Korea university anam hospital from May 2021 to September 2021. Patients were randomized to either group; SPG group vs. non-SPG group. 5 trainee endoscopists are included and used the Scopeguide. In non-SPG group, SPG monitor was hidden from view to the operator. The primary end point was the proportion of loop formation.

Results The study consisted of a total 70 patients, and the rate of loop formation was significantly less in the group using the Scopeguide. (SPG 62.9 % vs non-SPG 88.6 %; p = 0.012) The mean insertion time was 8.3 + - 4.73 in the SPG group and 6.98 + - 3.29 in the non-SPG group, and was not significant with a p value of 0.190. (SPG 22/35, 62.9 % vs non-SPG 14/35 11.44 %; p = 0.056) but position change showed significant difference between SPG group and non-SPG group. (SPG 0.0 % vs non-SPG 11.4 %, p = 0.039)

Conclusions For the trainee endoscopists, use of MEI reduced the rate of loop formation in routine colonoscopy.

eP191 ANTIBIOTIC PROPHYLAXIS FOR ENDOSCOPIC RETROGRADE CHOLANGIPANCREATOGRAPHY (ERCP): A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aims The prophylactic use of antibiotics in endoscopic retrograde cholangiopancreatography is still controversial. The literature is yet conflicting about indications. The aim of this meta-analysis is to assess antibiotic prophylaxis to reduce the incidence of septicemia and cholangitis in patients undergoing elective ERCP.

Methods This systematic review and meta-analysis. Searches were performed on databases: MEDLINE, EMBASE, and Cochrane Central. The risk of bias assessment was performed using the Cochrane revised Risk-of-Bias tool for randomized trials (ROB-2) and for non-randomized studies (ROBINS-I). The quality of evidence was assessed using standards of the Grading of Recommendation Assessment, Development and Evaluation (GRADEpro). The software tool used to evaluate the meta-analysis was the Review Manager 5.

Results Seven randomized and two observational studies were included, with a total of 1542 patients. The randomized clinical trials (RCT) and observational studies were analyzed separately. The RCT showed a reduction of 3 % in the risk of cholangitis after ERCP (RD -0.03; IC -0.05 -0.01; P = 0.009). Regarding septicemia, the RCTs demonstrated a risk reduction of 10 % on the antibiotic prophylaxis group. Considering the randomized work on an evaluation of septicemia, there was a 10 % reduction, no risk of sepsis, in the group that had antibiotic prophylaxis 10% [CI (-0.15, -0.05); P<0.0001]. However, the observational studies evidenced a benefit for the group that did not have prophylactic antibiotics with an [RD 0.22; IC (0.09-0.34); P= 0.0007].

Conclusions The prophylactic use of antibiotics in patients undergoing elective ERCP can reduce the risk of cholangitis and bacteremia.
eP192  A QUALITATIVE QUESTIONNAIRE BASED STUDY TO INVESTIGATE PATIENT PREFERENCE AND BARRIERS FOR THE TIMING OF BOWEL PREPARATION PRIOR TO MORNING COLONOSCOPY

Authors  Dash J.1, Siggers K.1, Baker-Moffatt M.1, Bombeo L.1, Downe H.1, Wilson P.1, Aslam S.P.1, Het H.1, Abdelrahim M.1, Bhandari P.1
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Aims  In the UK split preparation isn’t routinely used for morning colonoscopies despite evidence showing split dose preparation results in better quality bowel cleansing. This study aims to identify patient preference for bowel preparation timing and explore barriers and solutions for introducing split dosing for morning colonoscopy.

Methods  Prospective survey-based study of patients attending endoscopy. Patients were asked to select their preference for bowel preparation timing—option A (same day), option B (split dosing) or option C (day before). Factors influencing this were explored and patients were asked their preference again following explanation for the rationale of split preparation.

Results  304/346 patients participated in the questionnaire while attending for either morning colonoscopy (n = 154) or flexible sigmoidoscopy (n = 150). 58.2 % (n = 177) of patients initially selected day-before preparation. The main reasons given were avoiding waking up early (46.2 %) and not wanting to take it before bed (20.2 %). There was no statistically significant difference in patient choice when age, sex, employment status, education level or previous bowel preparation were taken into account. In those who chose day-before preparation, following education regarding the superiority of split preparation, 89.8 % were open to changing. This bought the total to 97.7 % who would consider split preparation (Table 1).

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Split preparation</th>
<th>Day prior preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre patient education patient preference</td>
<td>41.8 %</td>
<td>58.2 %</td>
</tr>
<tr>
<td>Post patient education patient preference</td>
<td>97.7 %</td>
<td>2.3 %</td>
</tr>
</tbody>
</table>

Conclusions  The main barrier to split preparation regimens for morning colonoscopies in the UK is related to patient preference of avoiding anti-social hours. This can be overcome following adequate patient education regarding the superiority of split dose preparation. These results can be used to implement split dose preparation more widely for morning colonoscopy procedures.

eP193  ANTIBIOTIC PROPHYLAXIS FOR COLORECTAL ENDOSCOPIC SUBMUCOSAL DISSECTION- IS IT DOGMA?

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Aims  Antibiotic prophylaxis is widely used during endoscopic submucosal dissection (ESD) which usually mandates hospital admission post-procedure. There is also suggestion that low rectal resections carry higher risk of sepsis. ESD is associated with high risk of bleeding and perforation. This can result in the need for admission. In our centre, antibiotic prophylaxis and admission is not a routine part of patient care. In this study we looked to review our outcomes.

Methods  Retrospective review of patients undergoing ESD for colorectal lesions at a single UK tertiary centre.

Results  We reviewed 403 consecutive colorectal ESDs carried out at our tertiary centre. Antibiotic prophylaxis was given in 5 % (n = 20) of cases for selective indications including prosthetic valves, exposed muscle and long duration of procedure. The incidence of post-procedural signs of sepsis was 0.75 % (n = 3). 6 % (n = 24) of patients were re-admitted within 30-days including 1 delayed perforation requiring surgery; 13 delayed bleeds and 10 other reasons such as pain, and cerebrovascular accident. 8 % (n = 33) of patients were admitted post-ESD including 10 procedural complications and 23 for observation or social reasons.

54 % (n = 217) of resections were carried out in the rectum. No there was no statistically significant difference in the incidence of sepsis by either lesion location (p = 0.65) or antibiotic use (p = 0.42).

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Rectum (n = 217)</th>
<th>Colon (n = 186)</th>
<th>Anti-biotics (n = 20)</th>
<th>No anti-biotics (n = 383)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sepsis (n = 3)</td>
<td>2 (0.5 %)</td>
<td>1 (0.25 %)</td>
<td>1 (0.25 %)</td>
<td>2 (0.5 %)</td>
</tr>
<tr>
<td>Bleeding (n = 13)</td>
<td>9 (2.2 %)</td>
<td>4 (1 %)</td>
<td>0 (0 %)</td>
<td>13 (3.2 %)</td>
</tr>
<tr>
<td>Pain (n = 7)</td>
<td>5 (1.2 %)</td>
<td>2 (0/5 %)</td>
<td>3 (0.75 %)</td>
<td>4 (1 %)</td>
</tr>
</tbody>
</table>

Conclusions  Our outcomes show < 1 % of patients develop sepsis related complications. Rectal resections were not a predictor for this. 6 % of patients re-presented within 30-days. These results support avoiding use of routine anti-biotic prophylaxis or admission after ESD.

eP194  MOTORIZED SPIRALED ENTEROSCOPY: EFFICACY AND SAFETY A. SPORTES, GHARBI, J-F REY INSTITUT ARNAULT TZANCK -SAINT LAURENT DU VAR -FRANCE

Author  Sportes A.1,2,3
Institutes 1 institut arnaul tzancl, hepatogastroenterology, Saint Larent Du Avr, France; 2 institut arnault tzanck, Saint Larent Du Avr, France; 3 institut arnault tzanck, hepatogastroenterology, Saint Larent Du Avr, France

Aims  AIM: Motorized spiraled Enteroscopy (MSE) is a new equipment developed by Olympus (Power spiral) in order to improve small bowel exploration. It’s a new version with a motor from the initial manual spiraled enteroscope the goal of our study was to assess its efficacy and safety on clinical practice

Methods  Method and patients: It’s a prospective study in France where we were the first center to introduce this new endoscopic tool. The primary end point was the diagnosis yield in patients with abnormalities observed during video capsule endoscopy. The secondary end points were: percentage of total examination down to cecum; percentage of therapeutic Enteroscopy; side-effects related to procedure.

Results  RESULTS :150 patients were enrolled (mean age 27 years old +/- 11,1; men 86, female 64).
eP195 FEASIBILITY OF FLUORESCENCE CONFOCAL MICROSCOPY FOR RAPID EVALUATION OF ENDOSCOPIC ULTRASOUND THROUGH THE NEEDLE BIOPSY IN PANCREATIC CYSTIC NEOPLASM: A PILOT STUDY

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Aims Endoscopic ultrasound guided through-the-needle biopsy (EUS-TTNB) has improved the diagnostic algorithm of pancreatic cystic neoplasms (PCN). However, the fragments obtained are very small and sometimes not eye-visible with the risk of loss during the preparation process. Fluorescence Confocal microscopy (FCM) allows imaging of tissues in the fresh state, requiring minimal preparation without damage or loss of tissue. The aim of this study was to assess the FCM feasibility in predicting histological adequacy of EUS-TTNB samples.

Methods Single centre prospective study conducted on consecutive patients with PCN who underwent EUS-TTNB at the Endoscopy Unit of Campus Bio-Medico University hospital. A 19 G needle with pre-loaded micro-forcep was used in all cases. Obtained samples were placed directly in a dedicated scaffold (Cytomatrix, UCS Diagnostics) and evaluated at FCM and classified as “Inadequate” or “Adequate” (serous or mucinous).

Results In this pilot study four patients were enrolled (25 % male; mean age 65 ± 15). The PCN’s mean size was 34 ± 6 mm. Mural node was present in 50 % of them. The mean biopsy number was 4 ± 1. In all cases FCM was able to show the macro image of the sample and to create a digital image. The 75 % of samples was defined adequate and in two cases provide the mucinous diagnosis.

Conclusions FCM represents a new technique successfully applicable to micro-histological specimens. It provides fast information about sample adequacy in small specimens with good agreement with the final histology. However, a larger sample is necessary to confirm these data.

eP196 IMPACT OF THE COVID-19 PANDEMIC ON UPPER GASTROINTESTINAL ENDOSCOPY ACTIVITY

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Aims The Coronavirus disease 2019 (COVID19) pandemic has clearly disrupted healthcare systems. Gastrointestinal endoscopy has been affected as well. This study aimed to evaluate the effect on upper gastrointestinal endoscopy (UGE) activity in terms of volume alongside indications and results.

Methods We conducted a single-centre retrospective study, including all UGE, over a period of eight months. We defined two phases: pre-pandemic (November 2019-February 2020) and 1st pandemic wave (March 2020-June 2020).

Results Four hundred and eighteen patients with a mean age 49.5 years ± 17.1 years were included, of which 57.4 % were female. Comparing the pandemic phase to baseline, the number of UGE declined of 29.4 % (245 vs 173). There was a significant drop in outpatients’ proportion undergoing UGE (73.5 % to 49.7 %, p < 0.01). However, the volume of urgent endoscopy did not change (16.3-18.5 %, p = 0.56). Regarding UGE indications, the following did not vary significantly: gastrointestinal bleeding (15.1-15.6 %, p = 0.50), caustic ingestion (0.4-1.2 %, p = 0.37), epigastric pain (51.7-54.3 %, p = 0.69), diarrhoea (4.8-4.3 %, p = 1.00), dysphagia (10.9-8.5 %, p = 0.54) and anaemia (15.18-1 %, p = 0.52). Nevertheless, a mild decline in gastroesophageal-refux-dictated UGE was observed (-6.4 %, p = 0.03) along with a rise in vomiting-driven UGE (+8 %, p = 0.02). Furthermore, variceal surveillance proportion increased (+31.3 %, p < 0.01) while monitoring Helicobacter Pylori eradication endoscopically diminished markedly (-29.6 %, p < 0.01). Concerning UGE findings, compared to benchmark, no significant dissimilarity was found: normal UGE (12.9-12.9 %, p = 0.99), erythematous mucosa (47.1-44.4 %, p = 0.59), reflux esophagitis (7.5-6.4 %, p = 0.68), peptic ulcer (15.8-9.9 %, p = 0.08), portal-hypertension signs (9.2-14.8 %, p = 0.08) and tumour (0.8-2.3 %, p = 0.24).

Conclusions COVID19 pandemic lessened UGE volume and moulded its indications to a relatively different distribution, without influencing the endoscopic findings.
CAUSTIC INGESTION: ENDOSCOPIC FINDINGS AND COMPLICATIONS

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**Aims** The aim of this study is to determine clinical, endoscopic aspects of caustic digestive lesions and complications in relation to the type of caustic substance.

**Methods** Retrospective study conducted in the hepato-gastroenterology department between January 2017 and November 2021 including 49 cases of caustic ingestion

**Results** 49 patients were included. The mean age was 31 years (16-66). 51 % were female, sex ratio M/F 0.9

Caustic ingestions were accidental in 17 % of cases and attempted suicide in 83 % of cases.

Hydrochloric acid was the most commonly used caustic (48 % of cases) followed by chlorine-bleach in 42 % of cases, pesticide in 6 %, potash and lye-soude in 2 %.

In 26 % of the cases, patients presented abdominal pain, vomiting and gastrointestinal bleeding, one case of perforation was suspected.

CT scan detected in 21 % thickening of gastric, duodenal and esophageal wall, in 4 % of cases there was a defect of enhancement of the esophageal mucosa.

**Table 1**

<table>
<thead>
<tr>
<th>Caustics substance</th>
<th>Esophageal endoscopy</th>
<th>Gastric endoscopy</th>
<th>Duodenal endoscopy</th>
<th>Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>IV (4 %) IIB(12 %) IIIA(25 %) IIB (25 %) IIA (12 %) I (4 %)</td>
<td>III B (25 %) IIA (16 %) IIB (4 %) II (8 %) I (8 %)</td>
<td>IIB (25 %) IIA (8 %)</td>
<td>+ esophageal stenosis (12.5 %) + total stenosis of the pharyngo-esophageal sphincter (4 %)</td>
</tr>
<tr>
<td>Chlorine bleach</td>
<td>IIA(4 %), IIB(14 %), II (14 %)</td>
<td>III A(4 %), IIB (4 %), II (23 %)</td>
<td>No lesion detected</td>
<td>+ esophageal stenosis (9 %)</td>
</tr>
<tr>
<td>Pesticide</td>
<td>No lesion detected</td>
<td>No lesion detected</td>
<td>No lesion detected</td>
<td>No lesion detected</td>
</tr>
<tr>
<td>Potash</td>
<td>No lesion detected</td>
<td>No lesion detected</td>
<td>No lesion detected</td>
<td>No lesion detected</td>
</tr>
<tr>
<td>Lye-soude</td>
<td>l(100 %) No lesion detected</td>
<td>No lesion detected</td>
<td>No lesion detected</td>
<td>No lesion detected</td>
</tr>
</tbody>
</table>

Table of caustic digestive lesions staging Zargar classification and their complications in relation to the type of caustic substance

The main complication was esophageal stenosis in 11 % of cases. Endoscopic dilatation was used in 2 % of cases with good progress, surgery was used in 13 % of cases, 7 % had a feeding jejunostomy, 6 % had a total eso-gastroectomy with esophagostomy and feeding jejunostomy as well as a coloplasty afterwards, 8 % with good progress and 2 deaths.

**Conclusions** In our study severe endoscopic lesions were detected in hydrochloric acid ingestion as well as short and long-term complications regardless of the amount ingested,

AN 18 MONTH REVIEW OF BOWEL PREPARATION QUALITY AMONG IN-PATIENT LEFT-SIDED COLONOSCOPIES

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**Institutes** 1 University College Dublin, School of Medicine, Dublin, Ireland; 2 Mater Misericordiae University Hospital, Department of Gastroenterology and Hepatology, Dublin, Ireland

**Aims** Left-sided colonoscopies (LCs) are commonly performed for investigation of lower gastrointestinal symptoms such as fresh rectal bleeding among in-patients. Their success depends on effective cleansing of the bowel contents usually with a laxative enema. This study aimed to assess the quality of bowel preparation reported on all in-patient LCs performed over an 18-month period in MMUH.

**Methods** A retrospective chart review of all in-patient LC reports at MMUH from January 2020 – May 2021. Preparation quality was defined by the automatic reporting parameters of either “excellent/good”, “adequate/satisfactory”, “poor” or “failed due to poor prep” as entered on the Endorad reporting system.

**Results** 321 in-patient LCs were performed in the stated timeframe at MMUH.che. The most common method of bowel preparation was phosphate enema, used in 79.8 % of LCs. The reported quality of bowel preparation across all LCs showed 20.9 % as “excellent/good”, 48.3 % as “adequate/satisfactory”, 28.3 % as “poor”, and 2.5 % as “failed due to poor prep”. Therefore 69.2 % of LCs were adequate/satisfactory or above. 4.1 % of all LCs were booked for repeat due to inadequate bowel preparation.

**Conclusions** This study showed that > 1/3 of in-patient LCs had poor preparation or failed due to poor preparation. Given the intercurrent pressures on endoscopy waiting lists, this is an area which could be targeted for improvement to avoid further investigations. Rigorous patient pre-assessment for fitness for procedure and adequate evaluation of response to initial enema with a view to repeating preparation if inadequate response are two such methods which could be implemented.

KNOWLEDGE, PERCEPTIONS AND BEHAVIOURS OF ENDOSCOPISTS TOWARDS THE USE OF ARTIFICIAL INTELLIGENCE AIDED COLONOSCOPY

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**Institutes** 1 Sengkang General Hospital, SingHealth Services, Department of General Surgery, Singapore, Singapore; 2 Sengkang General Hospital, SingHealth Services, Colorectal Service, Department of General Surgery, Singapore, Singapore; 3 Sengkang General Hospital, Endoscopy Centre, Division of Hyperacute Care, Singapore, Singapore; 4 Sengkang General Hospital, Chief Executive Officer, Singapore, Singapore; 5 Sengkang General Hospital, SingHealth Services, Department of Gastroenterology and Hepatology, Singapore, Singapore

**Aims** To determine the knowledge, perceptions, and understanding of endoscopists towards the use of artificial intelligence aided colonoscopy.
Aims Recent developments in artificial intelligence (AI) systems have enabled advancements in endoscopy. Deep learning systems, using convolutional neural networks, have allowed for real-time AI-aided detection of polyps with higher sensitivity than the average endoscopist. However, not all endoscopists welcome the advent of AI systems.

Methods We conducted a survey on the knowledge of AI, perceptions of AI in medicine, and behaviours regarding use of AI-aided colonoscopy, in a single centre 2 months after the implementation of Medtronic’s GI Genius in colonoscopy. We obtained a response rate of 66.7% (16/24) amongst consultant-grade endoscopists. Fisher’s exact test was used to calculate significance of correlations.

Results Knowledge of AI varied widely amongst endoscopists. Most endoscopists were optimistic about AI’s capabilities in performing objective administrative and clinical tasks, but reserved about AI providing personalised, empathetic care. 68.8% (n = 11) of endoscopists agreed or strongly agreed that GI Genius should be used as an adjunct in colonoscopy. In analysing the 31.3% (n = 5) of endoscopists who disagreed or were ambivalent about its use, there was no significant correlation with their knowledge or perceptions of AI, but a significant number did not enjoy using the programme (p-value = 0.0128) and did not think it improved the quality of colonoscopy (p-value = 0.033).

Conclusions Acceptance of AI-aided colonoscopy systems is more related to the endoscopist’s experience with using the programme, rather than general knowledge or perceptions towards AI. Uptake of such systems will rely greatly on how the device is delivered to the end user.

eP201 HAEMOSTASIS COURSE IMPROVES TRAINEES’ TECHNICAL AND NON TECHNICAL SKILLS

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Aims We wanted to identify the benefits of a 1 day haemostasis course in improving trainees’ knowledge and skills in managing upper gastrointestinal bleeding (UGIB).

Methods A 1 day haemostasis course was conducted in December 2021, this included lectures on UGIB management and hands-on training on various haemostasis modalities. The faculty included 15 skilled gastroenterologists. The hands on methods were performed on porcine and other synthetic models. Trainees’ pre-course knowledge and skills were enquired 2 days prior to the course and post course knowledge and skills were enquired 2 days after. These were done using SurveyMonkey.

Results A total of 21 delegates attended the course. All 21 completed the pre-course knowledge questionnaire. The post course questionnaire was completed by 16 trainees so far. An interim analysis was performed. Significant improvements were reported post-course (p < 0.001), especially in the hands-on and non-technical skills. There was a significant improvement in trainees’ perception regarding the mental and physical demands of the tasks.

Conclusions A structured 1-day haemostasis course helps trainees to improve their knowledge and skills. Significant improvement was noted in their non-technical skills and attitudes and perceptions pertaining to the mental and physical demands of the tasks during endotherapy.

eP202 COMPARATIVE PERFORMANCE AND EXTERNAL VALIDATION OF THREE DIFFERENT SCORES IN PREDICTING INADEQUATE BOWEL PREPARATION AMONG INPATIENTS UNDERGOING COLONOSCOPY

Authors Gkofilakis P.1, Kapizzi C.2, Tzatzizos G.1, Facciorusso A.1, Frazioni L.1, Thomopoulos R.1, Potamianos S.1, Christodoulou D.1, Papadopoulos V.1, Fucigo L.4, Haasen C.1, Trantafyllopou K.1
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Aims Predictive scores aim to predict bowel preparation adequateness among hospitalized patient undergoing colonoscopy. We evaluated the comparative efficacy of these scores for inadequate bowel cleansing in a cohort of Caucasian inpatients.

Methods We performed a post-hoc analysis of data from a cohort of inpatients undergoing colonoscopy in 4 tertiary Greek centers to validate the three models currently available (Model A, B and C). We used the Akaike Information Criterion (AIC) to quantify performance of each model, while Harrell’s c-index, as area under the receiver operating characteristics (ROC) curve (AUC), verified the discriminative ability to predict inadequate bowel prep. Primary endpoint was comparison of performance among models for predicting inadequate bowel cleansing.

Results Overall, 261 patients [121 (46.4 %) female, 100 (38.3 %) bedridden, mean age 70.7 ± 15.4 years] were included in the analysis. Model B showed the highest performance (Harrell’s c-index: AUC 77.2 % vs. 72.6 % and 57.5 %) compared to Models A and C, respectively (Figure 1). It also achieved higher performance (Harrell’s c-index: AUC 72.21 % vs. 64.97 % and 59.66 %) compared to Models A and C, respectively; for the subgroup of mobilized inpatients. Finally, Model B performed better in predicting patients with incomplete colonoscopy due to inadequate bowel preparation (Harrell’s c-index: AUC 74.23 % vs. 69.07 % and 52.76 % compared to Models A and C, respectively).

Fig 1

Conclusions Predictive Model B outperforms its comparators regarding prediction of inpatients with inadequate bowel preparation. This model is particularly advantageous when used to evaluate mobilized inpatients.
eP203 PERFORMANCE AND APPLICATION OF A FIRST GENERATION SINGLE-USE DUODENOSCOPE: A SINGLE-CENTER COHORT STUDY

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Aims Despite standardization and optimization of disinfection protocols, duodenoscope-related infections remain an emerging threat for patients undergoing ERCP. Single-use duodenoscopes could represent a potential alternative avenue to circumvent the problem of reprocessing and thus risk of exogenous patient-to-patient transmission. In this study we tested the feasibility and technical success rate of a recently made available single-use duodenoscope.

Methods The usability, performance and safety of a recently developed single-use duodenoscope was evaluated in a cohort of patients scheduled for ERCP. In this single center study clinical data were collected and a standardized evaluation of scope performance was executed. Outcomes included performance ratings of the single-use duodenoscopes, adverse events (assessed at 3 days and 1 week), and crossover rate to reusable duodenoscopes.

Results Performance of single-use duodenoscopes was evaluated in 52 consecutive patients. The ERCP completion rate with a single-use duodenoscope was 90.4 %, after cross-over to reusable duodenoscope 94.2 %. The mean ASGE grade was 2.7 with 27 procedures (51.9 %) considered as advanced level complexity (ASGE grade 3 & 4). Performance rating showed that 94% of the therapeutic treatments were assessed comparable to when using a traditional reusable duodenoscope. Overall satisfaction amounted to 80 %. No major adverse events were experienced related to the use of the single-use endoscope.

Conclusions Single-use duodenoscopes can provide an alternative to avoid the intensive and often inconsistent results of cleaning and disinfection procedures. We confirm feasibility, adequate performance characteristics and safety over a broad range of ERCP procedures, both in terms of indication and complexity, of a recently developed first-generation single-use duodenoscope.

eP204 TRAINEE PERFORMANCE IS CORRELATED WITH THE RISK OF PROCEDURE-RELATED ADVERSE EVENTS DURING HANDS-ON TRAINING ERCPs: RESULTS FROM THE INTERNATIONAL MULTICENTER TIERS STUDY

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Aims Operator skill is a recognized risk factor for procedure related adverse events (AE) at ERCP. We aimed to study whether trainee technical performance as assessed by a validated instrument such as the TEESAT score can influence ERCP AE rates.

Methods We analyzed data from a prospective, multicenter, observational study (the TIERS study) in 5 European endoscopy training centers. Data on consecutive ERCP procedures with any degree of hands on trainee involvement was collected using standardized forms, including the overall TEESAT score attributed by the trainer to grade the technical performance of the trainee. Patients were followed for 30 days after the procedure to accurately assess outcomes and AEs. The primary outcome measure was the rate of procedure-related AE which included any of the following: technical failure of the procedure, postERCP pancreatitis, bleeding, perforation, death or prolonged hospital stay. Multivariable analysis was conducted using SPSS.

Results A total of 409 consecutive ERCPs performed by 10 trainees and 11 supervisors between September 2019 – September 2021 were included in our analysis. In a logistic regression model including the TEESAT score, patient age, gender, bilirubin levels, indication for ERCP, difficult cannulation, use of precut, level of procedure difficulty and previous technical failure, the TEESAT score was shown to be the strongest predictor of any AE occurring after a training ERCP (p = 0.044, OR 0.39, CI 95 % 0.16-0.97), with difficult cannulation being the only other independent risk factor.

Conclusions Our findings suggest that trainee performance is correlated with procedure-related AE rates, prompting further research into this important field.

eP205 GASTROINTESTINAL BLEEDING AND ENDOSCOPIC FINDINGS IN CRITICALLY AND NON–CRITICALLY ILL PATIENTS WITH COVID-19: RESULTS FROM LEOSS AND COKA REGISTRIES

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Aims COVID-19 patients are at increased risk for thromboembolic events. It is unclear whether the risk for gastrointestinal (GI) bleeding is also increased.

Methods We considered 4128 COVID-19 patients enrolled in the LEOSS registry. Association between occurrence of GI bleeding and comorbidities as well as medication were examined. Additionally, 1216 patients from the COKA registry were analyzed focusing on endoscopic findings.

Results A total of 97 patients (1.8 %) with GI bleeding were identified in the LEOSS and COKA registries. Of 4128 patients from the LEOSS registry, 66 patients (1.6 %) had a GI bleeding. In ICU patients the rate was 4.5 %. Use of therapeutic dose of anticoagulants showed a significant association with increased
incidence of bleeding in the critical phase of disease. The Charlson comorbidity index and the COVID-19 severity index were significantly higher in patients with GI bleeding than in patients without GI bleeding (5.83(SD = 2.93) vs. 3.66(SD = 3.06), p < 0.01 and 3.26(SD = 1.69) vs. 2.33(SD = 1.53), p < 0.01, respectively). In the CDKA registry 31 patients (2.5 %) developed a GI bleeding. Of these, the source of bleeding was identified in upper GI tract in 21 patients (67.7 %) with ulcer as the most frequent bleeding source (25.8 %, n = 8) followed by gastroesophageal reflux (16.1 %, n = 5). In 3 patients (9.7 %) GI bleeding source was located in lower GI tract caused mainly by diverticular bleeding (6.5 %, n = 2). In 7 patients (22.6 %) the bleeding localization remained unknown.

Conclusions Risk of GI bleeding seems not to be increased in COVID-19 pa-tients. Consistent with previous findings, comorbidities and disease severity correlate with the incidence of GI bleeding.

eP206 REAL-TIME CHARACTERIZATION OF COLORECTAL POLYPS USING ARTIFICIAL INTELLIGENCE – A PROSPECTIVE PILOT STUDY COMPARING TWO COMPUTER-AIDED DIAGNOSIS SYSTEMS AND ONE EXPERT ENDOCOSPIST

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Aims Artificial intelligence (AI) has great potential in gastrointestinal endoscopy. Aim was to evaluate real-time diagnostic performances of our Artificial Intelligence for ColoRectal Polyps (AI4CRP) computer-aided diagnosis system for optical diagnosis of diminutive colorectal polyps (CRPs) and compare it with CAD EYE and an expert endoscopist.

Methods AI4CRP was developed using convolutional neural networks and previously trained and tested. In this prospective real-time pilot study, AI4CRP was compared with CAD EYE (Fujifilm, Tokyo, Japan) and one expert endoscopist unaware of AI-output. Blue light imaging was used for characterization and histopathology as gold standard. CRPs were characterized as hyperplastic (hyperplastic polyps) or neoplastic (adenomas, sessile serrated lesions [SSls]) by AI4CRP and the endoscopist, and as hyperplastic (hyperplastic polyps, SSls) or neoplastic (adenomas) by CAD EYE. CAD EYE’s inconclusive diagnoses were excluded. Enabling self-critical AI4CRP, post-hoc analysis excluded low confidence scores.

Results Real-time testing included 30 patients with 51 CRPs (32 adenomas, 6 SSls, 12 hyperplastic polyps). AI4CRP had a diagnostic accuracy of 80.4 %, sensitivity of 82.1 %, and specificity of 75.0 %. For self-critical AI4CRP (n = 37) the diagnostic accuracy was 89.2 %, sensitivity 89.7 %, and specificity 87.5 %. CAD EYE (n = 49) had a diagnostic accuracy of 83.7 %, sensitivity of 74.2 %, and specificity of 100.0 %. For the expert endoscopist the diagnostic accuracy was 88.2 %, sensitivity 94.9 %, and specificity 66.7 %.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>AI4CRP, %</th>
<th>Self-critical AI4CRP, %</th>
<th>CAD-EYE, %</th>
<th>Endoscopist, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n = 51)</td>
<td>(n = 37)</td>
<td>(n = 49)</td>
<td>(n = 51)</td>
<td></td>
</tr>
<tr>
<td>Diagnostic accuracy</td>
<td>80.4</td>
<td>89.2</td>
<td>83.7</td>
<td>88.2</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>82.1</td>
<td>89.7</td>
<td>74.2</td>
<td>94.9</td>
</tr>
<tr>
<td>Specificity</td>
<td>75.0</td>
<td>87.5</td>
<td>100.0</td>
<td>66.7</td>
</tr>
</tbody>
</table>

Conclusions AI4CRP achieved promising results, but CAD EYE’s diagnostic performances were higher. CAD EYE was unable to refrain from generating diagnoses for inconclusive cases. AI4CRP provided calibrated confidences, giving the ability to reject uncertain classifications, enabling better interpretability of AI-outputs.

eP207 ENDOCOSPIC ULTRASOUND-GUIDED GASTROENTERIC ANASTOMOSIS: A SINGLE CENTER SERIES EMPHASIZING BENIGN INDICATIONS

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DOI 10.1055/s-0042-1745060

Aims Endoscopic ultrasound-guided gastroenteric anastomosis (EUS-GEA) is a minimally invasive alternative to surgery for treating gastric outlet obstruction (GOO). This series is a single center cohort performing EUS-GEA with the same manner, highlighting the rate of benign indications and management of stent dislodgement.

Methods We reviewed, from a prospective database, all consecutive EUS-GEA performed in a tertiary care French hospital, from January 2014 to March 2021. Procedures were performed with direct technique under EUS with simultaneous contrast filling of the jejunal and fluoroscopy control, for jejunal loop identification and LAMS (lumen apposition metal stent) deployment.

Results In total, 30 EUS-GEA were performed in 28 patients (64.3 % men) with a median age of 67.5 years old (range: 31-86). Seventeen malignant cases were related to pancreatic adenocarcinoma (n = 11), ampuillary tumors (n = 4) and neuroendocrine tumor (n = 2). Thirteen (43.3 %) were performed for benign indications with duodenal stenosis related to chronic pancreatitis (n = 8) and Crohn’s disease (n = 2) or gastroparesis (n = 2). Twenty cases (66.7 %) were performed using 20mm Axios LAMS. The technical and clinical success rates were respectively 90 % and 87.6 % with no difference between benign and malignant indications. The perprocedural AEs rate was 16.6 %, all due to LAMS misdeployment in the intraperitoneal cavity. 3/5 (60 %) were successfully treated by salvage second Axios insertion with NOTES procedures and 2 with closure of the gastric perforation with OTSC clips.

Conclusions EUS-GJA seems to be ready for prime time since benign indications are almost half of cases and salvage therapy is efficient in case of stent dislodgement.

eP208 PERFORMANCE OF AN ARTIFICIAL INTELLIGENCE ALGORITHM FOR THE DETECTION OF GASTROINTESTINAL ANGIOECTASIA IN DEVICE-ASSISTED ENTEROSCOPY: A PILOT STUDY

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The application of artificial intelligence (AI) to different endoscopic modalities has produced exciting results. Nevertheless, their application to DAE has not been explored. We aimed to develop and test a convolutional neural network (CNN) algorithm for automatic detection of angioectasia in DAE exams. Methods A CNN was developed based on 72 DAE exams. A total of 6740 images were included, 1395 images angioectasia, and the remaining showing normal mucosa. A training dataset and a validation dataset, comprising 80% and 20% of the total pool of images, respectively, were constructed. The output provided by the network was compared to a consensus classification by two DAE experts (Fig. 1). The performance of the CNN was evaluated. Results Our model automatically detected angioectasia with an accuracy of 95.3%. Our CNN had a sensitivity, specificity, positive and negative predictive values of 88.5%, 97.1%, 88.1%, and 97.0%, respectively. The AUC was 0.98. The CNN analyzed the validation dataset at a rate of 237 frames per second. Conclusions The authors developed a pioneer AI algorithm for automatic detection of GI angioectasia in DAE exams. The potential increase in diagnostic yield provided by these algorithms may lead to more efficient treatment of these patients.

eP209  INTRODUCTION OF A 3RD GENERATION FNB NEEDLE IN COMMUNITY HOSPITAL PRACTICE INCREASES QUALITY AND YIELD OF EUS-GUIDED TA OF SOLID PANCREATIC LESIONS

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Aims  The ASGE has formulated three quality indicators (KPI) for EUS-guided TA of solid pancreas lesions. The authors developed a pioneer AI algorithm for automatic detection of angioectasia in DAE exams. The potential increase in diagnostic yield provided by these algorithms may lead to more efficient treatment of these patients.

Table 1 Differences in KPIs between different periods in hospital A.

<table>
<thead>
<tr>
<th></th>
<th>1 Jan 2015 – 31 Dec 2018 (n = 87)</th>
<th>1 Jan 2019 – 1 Aug 2019 (n = 37)</th>
<th>1 Aug 2019 – 31 Dec 2020 (n = 47)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of adequate sample</td>
<td>75 (86%)</td>
<td>26 (70%)</td>
<td>45 (96%)</td>
</tr>
<tr>
<td>Diagnostic yield of malignancy</td>
<td>53 (61%)</td>
<td>17 (46%)</td>
<td>33 (70%)</td>
</tr>
<tr>
<td>Sensitivity for malignancy</td>
<td>68 %</td>
<td>46 %</td>
<td>72 %</td>
</tr>
</tbody>
</table>

Conclusions  Continued registration of quality and yield proves to be of great help to monitor changes in quality, especially when new devices or methods are introduced. With the introduction of a 3rd generation FNB needle, after an initial and temporary decrease (“learning curve”), the quality of EUS-guided TA of solid pancreatic lesions improved up to the predefined PTs.

eP210  AN ARTIFICIAL INTELLIGENCE-BASED SYSTEM FOR AUTOMATICALLY MEASURING THE SIZE OF ENDOSCOPIC GASTROINTESTINAL LESIONS

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Aims  In the process of gastrointestinal endoscopy, it is necessary to measure the size of lesion, which is one of the bases for the risk classification and treatment of various diseases. We aimed at developing an artificial intelligence-based system for measuring the size of gastrointestinal lesions in real-time. We intended to assess the accuracy of the system on a 3D colon model and endoscopic patients.

Methods  The system was trained by deep convolutional neural networks, which integrated depth measurement and size assessment into a model. The system was developed using 5000 images. These images photographed a series of polypoid objects (2mm to 15mm) in vitro with object distance varied between 5mm and 100mm. The derived system was prospectively tested on a 3D-print colon model with polypoid objects and on 200 endoscopic videos from 170 patients.

Results  The system demonstrated a 91.15% accuracy with a mean absolute error of 2.60mm on 3D print colon compared with ground truth. On patient data, the system achieved similar metrics across different size of lesions with pathology results as gold standard. The assessments were more stable and accurate than endoscopists.
AI-assisted CE reading showed high diagnostic accuracy in detection of significant small bowel pathology with a significant reduction of reading time.

**eP212 THE EFFECTIVENESS AND TOLERABILITY OF VERY LOW VOLUME PREPARATION FOR COLONOSCOPY COMPARED TO STANDARD 2 L AND 4 L PEG-SOLUTIONS IN A REAL-LIFE SETTING**

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**DOI** 10.1055/s-0042-1745065

**Aims** Adequate bowel cleansing is essential for a high-quality colonoscopy. Recently, a new 1 litre (1L) polyethylene glycol (PEG) plus ascorbate solution (ASC) has been introduced. Our aims were to assess the effectiveness and tolerability of this product compared to standard 2L PEG-ASC and 4L PEG solutions, in a real-life setting.

**Methods** In six different endoscopy units in Sweden, all outpatients undergoing colonoscopy were either prescribed 2L PEG-ASC or 4L PEG-solutions according to local routines, or the 1L PEG-ASC, all in split dose regimen. Bowel cleansing effectiveness and patient experience was assessed using the Boston Bowel preparation scale (BBPS) and a patient questionnaire.

**Results** A total of 1098 patients were included in the study. Mean age was 58 years, 48% men and 52% women. Cecal intubation rate was 96% for the 4L solutions, 90% for 2L PEG-ASC and 94% for 1L PEG-ASC. Nausea and vomiting were more common with 1L PEG-ASC compared to 2L PEG-ASC and 4L PEG (43%, 22%, 37% and 12%, 4% and 7% respectively). Smell, taste and total experience was graded as better for 1L PEG-ASC compared to the 4L PEG solutions (p < 0.001), and similar compared to the 2L PEG-ASC solution.

**BBPS scores are presented in the table:**

<table>
<thead>
<tr>
<th>BBPS</th>
<th>4L PEG (n 371)</th>
<th>2L PEG-ASC (n 204)</th>
<th>1L PEG-ASC (n 523)</th>
<th>p-value (ANOVA, Tukey HSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Colon (mean, SD)</td>
<td>2.55 (0.55)</td>
<td>2.39 (0.71)</td>
<td>2.73 (0.54)</td>
<td>&lt;0.001 (1L vs 4L) &lt;0.001 (1L vs 2L)</td>
</tr>
<tr>
<td>Transverse colon (mean, SD)</td>
<td>2.69 (0.49)</td>
<td>2.47 (0.65)</td>
<td>2.79 (0.50)</td>
<td>&lt;0.05 (1L vs 4L) &lt;0.001 (1L vs 2L)</td>
</tr>
<tr>
<td>Left colon (mean, SD)</td>
<td>2.64 (0.51)</td>
<td>2.48 (0.65)</td>
<td>2.75 (0.54)</td>
<td>&lt;0.05 (1L vs 4L) &lt;0.001 (1L vs 2L)</td>
</tr>
<tr>
<td>Total score (mean, SD)</td>
<td>7.86 (1.43)</td>
<td>7.28 (1.97)</td>
<td>8.25 (1.53)</td>
<td>&lt;0.001 (1L vs 4L) &lt;0.001 (1L vs 2L)</td>
</tr>
</tbody>
</table>

**Conclusions** 1L PEG-ASC leads to better total BBPS scores and subsegment scores compared to 2L PEG-ASC and 4L PEG products. Nausea and vomiting were more common, but patient satisfaction was as good as or better than the other products.
eP213  COMPREHENSIVE REVIEW OF PUBLICLY AVAILABLE COLONOSCOPIC IMAGING DATASETS FOR ARTIFICIAL INTELLIGENCE RESEARCH: AVAILABILITY, ACCESSIBILITY AND USABILITY

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Aims Publicly available datasets containing colonoscopic imaging data are valuable resources for artificial intelligence (AI)-research in gastrointestinal endoscopy. This review aimed to describe the availability, accessibility and usability of these publicly available colonoscopic imaging datasets.

Methods A systematic literature search was performed in MEDLINE and Embase to identify AI-studies describing publicly available colonoscopic imaging datasets published after 2010. Second, a targeted search using Google’s (Dataset) Search, Citihub and Figshare was done to identify datasets directly. Datasets were included if they contained data about polyp detection, polyp classification or colonoscopy quality. Datasets were categorized according to their availability as: open access, open access with barriers and regulated access. To assess the potential usability of datasets, essential details of each dataset (i.e. metadata) were extracted using a structured checklist for metadata reporting.

Results We identified 16 datasets with open access, 2 datasets open access with barriers and 12 datasets with regulated access. Thirty open access datasets focused on polyp detection, 4 on polyp classification and 3 on colonoscopy quality (containing 14,796 images and 613 videos from ≥ 286 patients). The proportion of metadata items reported by each of the included datasets ranged from 32% to 91%. Although technical details were in general well-reported, reporting of the annotation process and clinical information was poor.

Conclusions This review provides greater insight on the availability, accessibility and usability of colonoscopic imaging datasets as resources for AI-research. Future efforts should focus on improved reporting of metadata, maximizing the potential of data resources and ultimately improving the quality of AI-research.

eP214  PERFORMANCE COMPARISON OF IMPROVED GAN-BASED ENDOSCOPIC ULTRASOUND PANCREATIC SCANNING NAVIGATION SYSTEM

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DOI 10.1055/s-0042-1745067

Aims EUS is considered one of the most sensitive modalities for pancreatic cancer detection. But EUS is highly operator-dependent and the learning curve is steep. In previous study, we constructed a deep learning-based pancreatic scanning navigation system in EUS, which can assist in identifying the standard station of the pancreas. However, the parameter settings of Gain and Contrast of images scanned by different EUS scanners are different. Such a large generalization leads endoscopists or AI systems to have poor accuracy in identification. Generative Adversarial Networks (GAN) has a strong ability to solve image generalization. Therefore, in this study, we intended to use GAN to optimize the EUS image navigation model, and use target and text recognition to identify the Gain and Contrast parameters of the images to achieve the normalization processing of EUS images.

Methods We retrospectively collected external independent EUS image datasets for testing. Firstly, the accuracy was tested using a primary pancreatic scanning navigation model based on CNN and a improved model based on GAN. Secondly, the test datasets were uniformly adjusted Gain and Contrast parameters and then input into the improved model based on GAN for testing and comparison.

Results A total of 2400 EUS images were collected for independent testing. The average accuracy of the primary model , the improved model and the improved model after image normalization processing was 83.63%, 87.09% and 89.64%, respectively.

Conclusions The improved EUS scanning navigation system based on GAN can effectively improve the recognition ability of endoscopists and AI systems in EUS images.

Fig. 1

eP215  HIGH ACCURACY OF DEEP LEARNING BASED AUTOMATIC POLYP CHARACTERIZATION IN REAL-TIME DURING COLONOSCOPY

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Aims Automatic polyp characterization (APC) during colonoscopy may enable endoscopists to determine histologic type of polyps more accurately. The M-A-CENTIQ-COLO is an artificial intelligence (AI) system that includes real-time polyp detection, size estimation, and APC. The purpose of this study was to assess polyp characterization performance.

Methods The APC categorizes polyps into two groups, neoplastic and non-neoplastic. It is implemented by a patch-wise convolutional neural network (CNN) with a backbone of ResNet50 CNN, and it was trained on 637,918 frames from 610 polyps with verified histopathology data. The APC results (neoplastic, non-neoplastic, or uncertain) are displayed in real-time. (Figure 1) In this study, 111,531 frames of 107 polyps taken from 88 colonoscopy videos were analyzed. To evaluate the performance of the APC, we measured accuracy (for the two groups), and precision and sensitivity of each group separately. The measurements were performed comparing the APC result to the histopathology results.
eP216 DEEP LEARNING BASED AUTOMATIC POLYP SIZE ESTIMATION IN REAL-TIME DURING COLONOSCOPY

Aims Accurate polyp size estimation (PSE) during colonoscopy is essential to determine appropriate resection methods and surveillance intervals. Automatic PSE (APSE) may help to reduce PSE variability through standardization. The MAGENTIQ-COLDO is an AI system that includes real-time polyp detection and real-time APSE. The purpose of this study was to assess APSE performance.

Results The APC accuracy on the dataset was 94.38%. The sensitivity was 99.95% for neoplastic polyps and 52.78% for non-neoplastic polyps. The precision was 94.04% for neoplastic polyps and 99.36% for non-neoplastic polyps. (Table 1)

Table 1

<table>
<thead>
<tr>
<th>Metric/Group</th>
<th>Neoplastic</th>
<th>Non-neoplastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>99.95%</td>
<td>52.78%</td>
</tr>
<tr>
<td>Precision</td>
<td>94.04%</td>
<td>99.36%</td>
</tr>
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</table>

Conclusions This newly introduced APC model has high accuracy and high precision for neoplastic and non-neoplastic polyps, and very high sensitivity for neoplastic polyps. The non-neoplastic sensitivity will improve as the system continues to train on a larger number of polyps (with emphasis on non-neoplastic polyps). By combining real-time APC and APSE, the AI system may support endoscopist decision-making in accurately diagnosing diminutive polyps, without the need for histologic confirmation.

eP217 AN INTRACOLONOSCOPY BOWEL CLEANSING SYSTEM FOR HARD-TO-PREPARE PATIENTS – A PROSPECTIVE MULTICENTER STUDY

Aims Adequate bowel preparation (BP) is essential for the efficacy and safety of colonoscopy. However, inadequate BP is reported in approximately 20% of colonoscopies, despite intensified regimes. Therefore, we hypothesized that an intraprocedural bowel cleansing system (Pure-Vu System, MotusGI) could fill this gap in BP strategies for hard-to-prepare patients. This study aims to assess the feasibility of the Pure-Vu in patients with a history of poor BP for colonoscopy.

Accuracy 88.91% 85.15% 95.89% 90.0%
Sensitivity 87.23% 85.78% 72.66% 81.9%
Precision 90.44% 77.38% 90.49% 86.1%

Conclusions The newly introduced APSE allows for accurate prediction of colon polyp size in real-time. APSE allows for a more accurate and standardized diagnosis with less variability compared to current PSE techniques, and in this way assists in correctly determining colonoscopy surveillance intervals.
Methods This ongoing international, multicenter study will include 44 patients with a history of inadequate BP in the last 2 years and undergoing screening/ surveillance colonoscopy. Enrollment will be finished in February 2022. All patients received a limited BP, consisting of 300 mL split-dose sodium picosulfate magnesium citrate and a 2-day low-fiber diet. Additional cleansing was done with the Pure-Vu. Primary outcome was bowel cleanliness using the Boston Bowel Preparation Scale (BBPS). Secondary outcomes included cecal intubation rate (CIR).

Results So far, 18 patients have been enrolled. Median BBPS before and after cleansing with the Pure-vu system was 1-2-2, and 3-3-3, respectively (P < 0.001). CIR was 88.9%. Reasons for incomplete colonoscopy were looping (n = 1) and a relative stricture (n = 1), possibly due to the added scope-diameter.

Conclusions The Pure-Vu could be an important tool to achieve compliance to surveillance intervals since patients with a history of poor BP typically undergo extensive preparation regimes and frequent colonoscopies due to poor visualization quality. Since these patients may have complicated anatomy (i.e., surgical scarring, diverticulosis), these factors should be considered to avoid incomplete procedures.

eP218 QUANTITATIVE ANALYSIS OF PERFUSION PATTERN IN CONTRAST-ENHANCED ENDOSCOPIC ULTRASONOGRAPHY FOR DIFFERENTIATION OF PANCREATIC TUMORS

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Aims Contrast-enhanced endoscopic ultrasound (CE-EUS) is a useful method for characterizing solid pancreatic tumors. We aimed to investigate the accuracy of quantitative analysis of enhancement patterns of solid pancreatic lesions to differentiate adenocarcinomas from other pancreatic tumors.

Methods Patients with solid pancreatic lesions examined by CE-EUS using a gas-containing microbubble echo-enhancer (SonoVue, 4.8 mL) were included. The enhancement pattern was quantified using Java-based software (ImageJ, NIH) at peak intensity, defined as a pixel brightness of 170-255 in the red channel. For the tumor tissue, the following parameters were assessed: area of enhancement in pixels, the median value of the pixels, integrated density, lack of symmetry (skewness), shape analysis using the ellipse fitting method (angle, major, minor). These parameters were compared between pancreatic adenocarcinomas and other pancreatic tumors. The final diagnosis was established either by histopathology or radiological findings combined with tumor markers and clinical follow-up.

Results Between 01/2014-08/2021, 88 solid pancreatic tumors (75 % malignant) could be identified for further analysis: 63.6 % adenocarcinomas, 8 % metastasis, 3.4 % neuroendocrine tumors, 4.5 % other malignant tumors, 18 (20.5 %) benign masses. For six of seven evaluated parameters which were significantly correlated with the presence of adenocarcinoma, areas under the receiver-operating characteristic curves with best cut-off values were calculated (Table 1). The risk of adenocarcinoma according to these criteria was: 5 or 6 criteria (n = 12) 100 %, 2 to 4 criteria (n = 66) 77.3 %; 0 or 1 criterion (n = 10) 10 %.

Conclusions Quantitative analysis of CE-EUS perfusion patterns may differentiate (>4 or <2 criteria) pancreatic adenocarcinomas from other pancreatic tumors.

| Table 1 |
| Variable | Correlation (r) | Criterion (AUC; 95 % CI) | Sensitivity (%) | Specificity (%) |
| Area | r = -0,214 (0,04) | ≤ 0,519 (0,631; 0,733) | 41,1 | 86,2 |
| Median | r = -0,239 (0,02) | ≤ 0,534 (0,645; 0,746) | 55,4 | 79,3 |
| Skew | r = 0,206 (0,05) | > 2 (0,507; 0,619) | 34,6 | 86,2 |
| Angle | r = 0,282 (0,009) | > 35 (0,561; 0,770) | 76,8 | 55,2 |
| Major | r = -0,215 (0,04) | ≤ 0,520 (0,631; 0,733) | 78,6 | 44,8 |
| Minor | r = -0,223 (0,04) | ≤ 0,532 (0,635; 0,737) | 46,4 | 79,3 |

eP219 IMPROVING USABILITY OF AI SYSTEMS FOR POLYP DETECTION BY RECOGNIZING DIFFERENT INTERVENTIONS DURING COLONOSCOPY

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Aims Artificial intelligence for polyp detection systems (CADe) highlight regions such as colorectal polyps and are useful in fully insufflated colon lumen. However, CADe generate a significant number of false positive (FP) activations when performing interventions such as polypectomies due to the introduction of snare or biopsy forces. These bounding boxes have the potential to disturb the examiner’s work.

Methods A convolutional neuronal network (CNN) to recognize instruments in the endoscopic image was developed and evaluated. The CNN has the ability to pause the signal of the CADe system when an instrument is recognized. A total of 30 different examinations from 6 different centers were screened for instruments and generated the training dataset. The test dataset included 8 full-colonoscopy videos that were analyzed for the recognition of visible instruments and detections by a commercially available CADe.

Results The training data contained 74179 images, 23.9 % with visible instruments. The CNN was able to recognize instruments in 73.5 % of the validation dataset images with a specificity of 90.9 %. A mean of 380.5 disturbing frames per colonoscopy were avoided using the CNN. This accounted for a 76.9 % of the total number of disturbing activations.

Conclusions CADe systems usually rely on a clean, well-insufflated colon lumen to detect polyps. However, instruments like polypectomy snares often lead to FP detections that could potentially disturb the examiner during the intervention. Using a CNN, we were able to accurately detect the presence of an instrument, pause the CADe system and avoid further activations when the polyp is already detected.
**eP220**  ARTIFICIAL NEURAL NETWORK FOR THE PREDICTION OF MORTALITY IN PATIENTS PRESENTED WITH NON-VARICEAL UPPER GASTROINTESTINAL BLEEDING

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**DOI**  10.1055/s-0042-1745073

**Aims**  Upper gastrointestinal bleeding (UGIB) represents a common cause of gastroenterological admission and usually requires risk stratification for level of care determination as well as a rapid decision management. The aim of our study is to assess the use of an artificial neuronal network (ANN) that may help predict mortality in patients which present with non-variceal UGIB.

**Methods**  All patients admitted with non-variceal UGIB within the Gastroenterology Department of Craiova County Hospital between 1st of January 2017 and 31st December 2019 were included in our study. We performed a patient analysis on 914 patients by using the Rockall, AIM65 and the Glasgow-Blatchford score. A two layers ANN of the endoscopic scores was developed using Python 3.10.0 and tried to provide a higher prediction of patient’s mortality. The neural network was validated on the patients admitted in 2019. Each nod was assessed by using random weights of each parameter, which are further adjustable according to the prediction errors. The second layer consisted of 7 nodes.

**Results**  Our ANN was able to predict the mortality rate of patients non-variceal UGIB better than the three scores taken separately with an accuracy>95%. The second iteration revealed a specificity of 0.96 and a sensitivity of 0.76 which was higher than the used scores alone.

**Conclusions**  Using the three UGIB scores in ANN may perform better for patient’s mortality assessment in a non-variceal setting. However, there is a need of external validation in external patient’s population to be validated.

**eP221**  STAGING OF BARRETT’S NEOPLASIA USING ARTIFICIAL NEURAL NETWORKS, PROOF OF CONCEPT STUDY

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**DOI**  10.1055/s-0042-1745074

**Aims**  Endoscopic differentiation between intra-mucosal and submucosal Barrett’s neoplasia has several important implications but remains challenging even for expert endoscopists. Recent studies demonstrated promising results on AI-assisted detection of Barrett’s neoplasia, but data on AI-assisted staging is limited. We aimed to develop and validate an AI system for classification of Barrett’s neoplasia into intra-mucosal or submucosal, and compare its performance to expert endoscopists.

**Methods**  The model, based on VGG-16 architecture, was trained on 117 images of prospectively collected and annotated Barrett’s lesions. Rotation and random flip were used for data augmentation. The ground truth was the histological staging of endoscopically resected specimens performed by two pathologists with expertise in Barrett’s neoplasia. Images comprised of WLI, enhanced imaging, and magnification views. The model was designed to classify images as either intra-mucosal (pT1a) or submucosal (pT1b). Performance of the AI system was compared to a group of three experts.

**Results**

<table>
<thead>
<tr>
<th>Metric</th>
<th>AI model</th>
<th>Experts (n = 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>70.9 %</td>
<td>73.3 %</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>72.5 %</td>
<td>63.3 %</td>
</tr>
<tr>
<td>Specificity</td>
<td>65.7 %</td>
<td>83.3 %</td>
</tr>
</tbody>
</table>

The AI model was tested on an independent dataset of 90 images. Accuracy, sensitivity and specificity and AUC of the AI model in differentiating between intra-mucosal and submucosal neoplasia was 70.9%, 72.5%, 65.7%, and 0.781 respectively. Mean accuracy, sensitivity and specificity of experts were 73.3%, 63.3% and 83.3% respectively. Processing speed of the AI system was 5 ms/image.

**eP222**  EVOLUTION OF CAUSTIC INJURY OF THE UPPER GASTROINTESTINAL TRACT: ABOUT 38 CASES

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**DOI**  10.1055/s-0042-1745075

**Aims**  The aim of this work is to report our experience of caustic injury of the upper gastrointestinal tract and to analyze the evolution of the lesions.

**Methods**  We performed a descriptive retrospective study over 3 years (2018-2020) where all patients who underwent upper GI endoscopy in the acute phase were included and esophagel and gastric caustic lesions were classified according to their severity and extent according to the Savary and Miller score.

**Results**  38 patients were included, the average age was 24 years (17–49). The most frequently ingested corrosive substances were alkalis in 52.63% and acids in 31.57% of cases; ingestion was accidental in 57.89%. The super gastro-intes-
tinal endoscopy was often performed on average after 48h-72h post ingestion, it showed different stages of lesions: from a stage I in 23.68 % to diffuse necrosis lesions in 15.78 % of cases. The evolution was marked by a clinical improvement without complications with a 3 year follow-up in 55.26 %, while in 44.7 % of the patients we noted: 3 cases of death following a perforation or infectious complications, 31.57 % presented an esophageal stenosis at different levels which was clinically manifested by dysphagia and treated by dilatation with candles or pneumatics and 2 patients presented an antero-pyloric stenosis treated by dilatation sessions.

Conclusions Caustic ingestion is an urgent situation requiring an early multidisciplinary management likely to complications in the short, medium and long term and for which uppercut endoscopy represents a capital examination of first intention but also a tool in the therapeutic management of this pathology.

eP223 SEASONAL IMPACTS ON THE INCIDENCE OF EASOPHAGEAL VARICEAL BLEEDING

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Aims The impact of low air temperature on esophageal variceal bleeding has yielded conflicting results. We aimed to explore the impact of seasonal variation on the occurrence and prognosis of variceal bleeding.

Methods A cross-sectional study from January 2014 to June 2021 in the department of gastroenterology of habib thameur Hospital of Tunisia was conducted. We included cirrhotic patients hospitalized with a primary diagnosis of esophageal variceal hemorrhage. Our primary aim was to assess seasonal variations in variceal bleeding-related hospitalizations. The secondary aims were to assess the impact of seasonal variation on outcomes in variceal bleeding including in-hospital mortality.

Results A total of 83 patients hospitalized with esophageal variceal bleeding were included. The average age was 63.7 years. The gastrointestinal bleeding was inaugural in 43.3 %. Thirty-eight percent (38 %) of the patients had post hepatitis B or C virus cirrhosis. The highest number of hospitalizations was reported in September (15 %) then january (12 %) and the lowest was reported in June (2 %). Winter was associated with in-hospital mortality (p = 0.05): The highest rate was in January (22 %) and lowest rate in June (0 %) regardless of age, sex, decompensated cirrhosis, Child pugh classification and etiology of liver disease. There was no significant difference in hospital length of stay across all months in all years combined.

Conclusions There appears to be a seasonal variation in the incidence of variceal hemorrhage as well as in the in-hospital mortality. September was the month with the highest number of daily hospitalizations while the nadir occurred in June.

eP225 INFLUENCE OF COVID-19 ON PATIENTS UNDER PROPHYLACTIC ENDOCOPIC VARICEAL LIGATION (EVL) THERAPY IN A PORTUGUESE CENTER

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Aims Evaluate the impact of COVID-19 on outcomes of patients under prophylactic EVL therapy, namely variceal eradication, bleeding post-EVL therapy and death at 6 months post-last session.

Methods Retrospective study of patients on EVL at a tertiary hospital between 2017 and 2020. To have independent groups concerning EVL therapy pre and during pandemic, the cutoff date was 1st January 2019. Variceal eradication and bleeding were analyzed during one year of follow-up. Differences between groups were identified using chi-squared and independent t-tests. Risk factors were identified through logistic regression.

Results 97 patients were included: 75 men (77 %) with mean age of 59 ± 12years. Cirrhosis was the predominant cause of portal hypertension (88 %): alcohol and virus as main etiologies (75 %). 398 prophylactic EVL sessions were performed: 53 patients underwent 223 sessions (56 %) in pre-pandemic group and 44 patients underwent 175 sessions (44 %) in the latter. However, no statistical significance in the mean number of sessions was observed between them (p = 0.587). 66 patients performed EVL therapy as secondary prophylaxis. 12 and 15 patients suffered post-EVL bleeding and death, respectively. There was no association of these two outcomes between pre and pandemic groups. However, variceal eradication showed significant difference (p = 0.001) (Figure 1). The independent risk factors for variceal eradication were pandemic group and total number of EVL sessions (p < 0.01), whereas for death at 6 months were age, portal vein thrombosis, and MELD-Na (p < 0.05).

eP226V A RARE CASE OF EXTENSIVE BLACK ESOPHAGUS MANAGED CONSERVATIVELY

Authors Curato A.1, Soriani P.1, Biancheri P.1, Ottaviani L.1, Rainer J.1, Deiana S.1, Impellizzeri G.1, Gabbani T.1, Bonura G.F.1, Manno M.1
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Acute esophageal necrosis (AEN), also known as black esophagus, is a rare condition, characterized by a circumferential black appearance of the esophageal mucosa due to acute ischemia. AEN usually develops in the context of peripheral vascular disease, sepsis, multiorgan dysfunction, diabetic ketoacidosis or alcohol intoxication. Here we show the video-report of an 85-year-old woman who underwent urgent EGDS for hematemesis, which revealed extensive AEN. This condition was successfully managed with medical therapy. Second-look EGDS, performed after 2 weeks, showed complete resolution of the necrosis. The patient was then allowed to eat a soft diet, which she tolerated well without complications.
eP227 EFFICACY OF ENDOSCOPIC BAND LIGATION IN THE ERADICATION OF OESOPHAGEAL VARICES
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Aims Evaluate the efficacy of endoscopic band ligation in the eradication of esophageal varices and the prevention of reblooding in cirrhosis
Methods Retrospective Study between January 2018 and November 2021 including 66 cases cirrhotic patients who underwent endoscopic band ligation of esophageal varices for secondary prophylaxis. The sessions were planned every 3-4 weeks following a successful ligation until eradication but in some cases they were delayed due to the covid-19 pandemic. B-blockers were systematically associated with EBL. Failure was defined as the non eradication of the esophageal varices after 6 EBL sessions.
Results 66 patients were included, 43 females (65.15%) with a sex ratio of 1.28 F / M. The average age was 55.8 years (27-88). Etiologies: viral infections 10.63%, primary biliary cirrhosis 3%, Wilson's disease 3% and alcoholic 15.11% each. 55.3% of patients were Child Pugh A, 41.7% B and 2.9% were C. The eradication rate was 57.5% for an average number of sessions/patients of 2.65 (1-7). 28.9% cases varices eradicated in one session of EBL, while 31.2% required two sessions; 21% cases it took three sessions, and in 18% more than three sessions. Eradication protocol failed in 4.5%, while 25 patients are still in the course of eradication. Two cases has bleeding post ligation with good outcome. The mean duration of follow-up was 2 years. The esophageal varices recurrence rate was 10.6% and mean time to recurrence was 26 months.
Conclusions Numbers of sessions of eradication was 2.65/patients , recurrence rate was 10.6%.

eP228 EFFICACY AND SAFETY OF THE ENDOSCOPIC SEPTOSTOMY OF ZENKER’S DIVERICTUM WITH THE SB-KNIFE
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Aims Management of Zenker’s diverticulum (ZD) through open neck surgery to perform a cricopharyngeal myotomy and stapling through rigid endoscopes have been the standard treatments in past decades. Several endoscopic techniques have been developed. We present our experience of Zenker’s diverticulotomy (ZS) using a flexible endoscope and an SB-knifeTM (Sumitomo Bakelite Ltd., Japan), primarily designed for ESD.
Methods From February 2017 to October 2021 we prospectively collected the data of our first 22 ZS performed with an SB-knife. Inclusion criteria: > 18 years, symptomatic ZD diagnosed by esophagogram, CT or endoscopy, and no previous treatment. All patients signed informed consent. All procedures performed under general anesthesia and antibiotic prophylaxis, using: double Ball diverticuloscope (Cook Endoscopy, Winston-Salem, NC, USA), stiff guidewire, flexible Fujinon videoscopes and VIO200/300 (ERBE Elektromedizin, Tübingen, Germany) electrosurgical units. Efficacy, safety and hospital stay were tested.
Results Twenty-two septostomies in 18 patients (16 male), aged 67.5, sized 37.5 (17-62) mm. Treatment completion: 100% in 29.6 minutes, using 2.4 clips. Adverse events: 1 mild hemorrhage (endoscopic tx); 1 fever (normal CT); 0 perforations. No surgery/death. Mean F-up: 387 days. In 21/22 patients the symptoms improved or relieved immediately. Four patients relapsed after 5.75 months, and were retreated (1 unsuccessful, submitted to surgery.) Eckardt score decreased from 5.3 to 0.5. Global long-time clinical success 21/22 (95.4%). Mean hospital stay: 2.0 days.
Conclusions Endoscopic diverticulotomy with the SB-knife is safe, feasible and effective; with an Eckardt scale decrease from 5.3 to 0.5. Longterm global clinical success achieved 95% after treating 4 recurrences; Adverse events rate was negligible.

eP229V ENDOSCOPIC REMOVAL OF A SHARP ESOPHAGEAL FOREIGN BODY: CHALLENGES FACED
Authors Desai P.N.1, Patel C.1, Prajapati R.1, Kabrawala M.1, Patel N.1, Sethia M.1, Mehta R.1, Nandwani S.1
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45-year male with dysphagia one and half months after eating fish. X-ray neck – foreign body in neck. CT neck showed a V shaped bone located horizontally in proximal esophagus. No free perforation or vascular impingement. EGD revealed V shaped bone both ends and base embedded in proximal esophageal wall. Distal and proximal wings of V dislodged one by one with rat tooth and removal attempted. Failed. Base dislodged from esophageal wall taking care that end of wings did not further impinge opposite wall. The V then pulled out holding the base and two arms vertical. Ryle’s tube placed for feeding.

eP230V ENDOSCOPIST’S NIGHTMARE
Authors Desai P.N.1, Prajapati R.1, Patel C.1, Kabrawala M.1, Patel N.1, Sethia M.1, Mehta R.1, Nandwani S.1
Institute 1 SIDS Hospital & Research Centre, Surat, India
Male 46, decompensated cirrhosis, melena. Endoscopic variceal ligation 4 weeks back. Endoscopy – large esophageal varices with white nipple sign. Band applied over the varix including white nipple. Band slipped. Repeat banding failed. 0.5 ml cyanoacrylate glue injected. Bleeding persisted inspite of two more glue. Vision deteriorated. Distal attachment cap used. Provided space between clot and lens and better visibility. Tamponade created, exact point of bleed identified with gradual withdraw and one more glue injected with secured haemostasis. Conclusion: Consider White nipple sign seriously. Intubate patient as they can have massive bleed. Cap helps tamponade and controlled injection in esophagus.

eP231V SLOUGHING ESOPHAGUS
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Esophageal dissections superficialis is rare endoscopy findings, it is characterized by sloughing off esophageal mucosa. It has been linked conditions such as eosinophilic esophagitis, lichen planus, pemphigus vulgaris. Here we describe a case of 55 year old male with no significant past medical history. Patients reports complaints of dysphagia for solids foods. We obtained biopsies and pathology was consistent sloughing esophagitis. The underline etiology of sloughing esophagitis remains unknown it can be a reaction to multiple insults such thermal, immune medicated, and chemical. It is mostly benign, self-limiting process but when associated with bullous dermatoles will require steroid treatment.
eP232V SOME ENDOSCOPIC TECHNICAL MODIFICATIONS IN THE TREATMENT OF ZENKER’S DIVERTICULUM

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The original diverticuloscope has a 4 cm long esophageal flap and, a 2.5 cm long diverticular flap. Instead, on purpose, the length of the diverticular flap is reduced from 2.5 cm to 1 cm long through a manual semicircular cut. Thus, we achieve a progressive exposure of the septum, regardless of the size of the ZD. A “rigid” transparent cap is attached to the tip of the endoscope. This device helps to better visualize the progression of the septum dissection and myotomy. In case of bleeding, it facilitates the location of the bleeding vessel as well as its treatment.

eP233 SELF-EXPANDABLE METAL STENTS IN ESOPHAGEAL CANCER BEFORE PREOPERATIVE NEOADJUVANT THERAPY: EFFICACY, SAFETY AND LONG-TERM OUTCOMES

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Institute 1 Centro Hospitalar Universitário de São João, Gastroenterology, Porto, Portugal doi 10.1055/s-0042-1745086

Aims Evaluate self-expandable metal stent (SEMS) placement impact on clinical and oncologic outcomes in patients with esophageal cancer who underwent surgery after neoadjuvant therapy (NT).

Methods Retrospective study of esophageal cancer patients referred for esophagectomy after NT. A propensity score was built consisting of the condition probability of having a SEMS given a set of baseline variables. In the SEMS group, patients underwent SEMS placement followed by NT and esophagectomy, whereas in the non-SEMS group, patients underwent only NT and esophagectomy.

Results One hundred patients were included, 29 in the SEMS group and 71 in the non-SEMS group. Median follow-up was 18 months. SEMS-related adverse events occurred in 20.7% of the patients. After propensity score analysis, SEMS use decreased delta dysphagia score (regression coefficient [RC] = –2.69, 95% CI –3.18 to –2.21), dysphagia grade before surgery (RC: –0.74, 95% CI –1.22 to –0.27), hospital readmissions at 1 month (OR 0.18; p = 0.019), but increased overall morbidity after surgery (OR 3.02; p = 0.045). No significant differences were found regarding delta albumin levels and albumin levels before surgery, as well as its treatment.

eP234 GIANT ZENKER DIVERTICULUM: IS ENDOSCOPIC TREATMENT AN OPTION?

Authors Ginestet C 1, Barret M 1, Belle A 1, Abou Ali E 1, Hallit R 1, Assaf A 1, Coniat R 1, Chaussade S 1
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Aims Zenker’s diverticulum usually presents in the elderly population with symptoms of dysphagia. The endoscopic diverticulotomy can be performed using either cap or diverticuloscope assistance. The abandonment of the diverticuloscope for the treatment of diverticulum allows to perform a complete septotomy of the diverticular wall in particular in the case of large diverticula (greater than 5 cm). The aim of this study was to evaluate the safety and feasibility of complete septotomy in the setting of large Zenker’s diverticula.

Methods We conducted a retrospective analysis that included all patients who had endoscopic septotomy for large Zenker diverticulum (greater than 5 cm) between January 2014 and November 2020. The procedure was performed under general anesthesia using a gastroscope with a cap assistance. The complete incision of the diverticulum septum was achieved using a Dual or TT knife, until complete effacement of the diverticulum. The short and medium term clinical results were collected. The clinical success rate was defined as the absence of regurgitation or dysphagia-like symptoms.

Results 105 patients have been treated endoscopically for Zenker’s diverticulum. Twelve patients had large diverticula. The mean size of the diverticula was 6.1 ± 1.15 cm. The clinical success rate was 100% and the complication rate was 8%. After a median follow-up of 12.5 months, the clinical success rate was 92% in ITT and 100% in per protocol.

Conclusions Complete endoscopic septotomy seems to be an interesting approach for the treatment of large diverticula with a high clinical success rate and low rate of morbidity.

eP235 COMPARISON OF PREOPERATIVE AND POSTOPERATIVE FUNCTIONAL LUMINAL IMAGING PROBE MEASUREMENTS IN PATIENTS UNDERGOING PERORAL ENDOSCOPIC MYOTOMY FOR ACHALASIA

Authors Gröhl K 1, Ebigbo A 1, Schnoy E 1, Messmann H 1, Nagl S 1
Institute 1 University Hospital Augsburg, Gastroenterology, Augsburg, Germany doi 10.1055/s-0042-1745088

Aims The functional luminal imaging probe (FLIP) is a catheter-based device that measures esophagogastric junction (EGJ) distensibility. Previous studies have demonstrated that impedance planimetry measurements can predict clinical response following peroral endoscopic myotomy (POEM). This study aims to assess changes in distensibility index (DI), intraballoon pressure (IBP), cross-sectional Area (CSA) and minimum diameter (Dmin) in patients with untreated achalasia before, during and after POEM and to determine the most predictive measures for clinical response.

Methods Untreated achalasia patients undergoing POEM were prospectively enrolled. FLIP measurements including CSA, IBP, CSA and Dmin of the lower esophageal sphincter (LES) were performed (1) at the start of the POEM procedure, (2) after POEM myotomy and (3) at a routine 3-months follow-up. Measurements were reported at a 30 ml and a 40 ml fill volume for the 8 cm FLIP (EF-325). Clinical response was defined as an Eckardt score ≤3 at 3-months follow-up.

Results Fourteen patients underwent FLIP measurements at time point 1 and 2. Post-operative CSA, Dmin, DI values for 30 ml and CSA, Dmin, DI values for 40 ml fill volume were significantly different from pre-operative values (30ml: 51.0(±27)mm² vs. 72.6(±28.7)mm², P = 0.009; 7.7(±2.1)mm vs. 9.9(±1.5)mm, P = 0.001; 2.5(±1.7)mm²/mmHg vs. 3.9(±1.3)mm²/mmHg, P = 0.004; 40ml: 88.3(±41.9)mm² vs. 124.3(±32.6)mm², P = 0.001; 10.3(±2.4)mm²/mmHg vs. 12.7(±1.8)mm²/mmHg, P = 0.001; 2.3(±1.2)mm²/mmHg vs. 3.8(±1.3)mm²/mmHg, P = 0.001; 40.5(±11.3)mm²/mmHg vs. 36.0(±8.2)mm²/mmHg, P = 0.023).

Conclusions CSA, Dmin and DI improve significantly after POEM. The most predictive measures for clinical response following POEM have yet to be clarified when follow-up data are available.
**Aims**  In terms of Portal hypertension, attention is being mostly focused on searching and treating esophageal and gastric varices. Portal hypertensive gastropathy (PHG) is usually underappreciated. However, it can cause gastrointestinal bleeding. The aim of our study is to determine the prevalence of PHG and to study the clinical and endoscopic features of patients diagnosed with PHG.

**Methods**  Between January 2008 and December 2021, a total of 200 patients had been diagnosed with cirrhosis in our center and were included. Clinical, biological and endoscopic data were retrospectively collected.

**Results**  Two hundred patients were included in this study. The mean age was 56.9 ± 15 years. Sex ratio (M/F) was 0.79. Hepatitis B was the main etiology (n = 60; 30 %) followed by hepatitis C (n = 32; 16 %), nonalcoholic steatohepatitis in 36 cases (18 %), Primary biliary cholangitis in 21 cases (10.5 %), autoimmune hepatitis in 10 cases (5 %), chronic alcolism in 9 cases (4.5 %) and vascular diseases of the liver in 5 cases (2.5 %). Cirrhosis was deemed cryptogenic in 27 (13.5 %) patients. The overall prevalence of PHG in patients with cirrhosis was 71 %: mild (28.8 %), moderate (50 %) and severe (21.1 %). PHG was not significantly associated with age (p = 0.81), gender (p = 0.11), ascites (p = 0.11), hepatic encephalopathy (p = 0.51) or thrombocytopenia (p = 0.49). Whereas, significant association was found between PHG and hypoalbuminemia (< 35g (73.9 % vs 50 %; p = 0.01)). Regarding severe PHG, a significant association was found only with male gender (87.5 % vs 73.2 %; p = 0.013).

**Conclusions**  In our study, the overall prevalence of PHG was 71 %. Hypoalbuminemia was significantly more common in patients with gastroapthy. Importantly, the prevalence of severe PHG seems to be higher in male patients.

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**eP237  PREDICTION OF LARGE ESOPHAGEAL VARICES IN PATIENTS WITH COMPENSATED CIRRHOSIS USING IMAGING PARAMETERS**

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**DOI** 10.1055/s-0042-1745090

**Aims**  Upper gastrointestinal endoscopy (UGE) remains the gold standard for Portal-hypertension screening. However, this method is invasive and expansive. Noninvasive methods are needed to identify clinically significant portal hypertension and esophageal varices (EV) in patients with compensated cirrhosis. This study aims to establish the role of spleen size and portal vein diameter by ultrasonography in predicting large EV.

**Methods**  Two hundred patients with clinical, biological, endoscopic and radiologic features of cirrhosis were included in our monocentric retrospective study. All of our patients underwent UGE for detection of esophageal varices (EV) as well as ultrasonography assessments of spleen size and portal vein diameter.

**Results**  The average age was 56.9 ± 15 years. The sex ratio H/F was 0.79. The most common cirrhosis etiology was viral hepatitis infection (46 %). During the endoscopic procedure, large EV (Grade II and III) were detected in 138 (69 %) patients. Ultrasonography showed splenomegaly in 169 (84.5 %) patients and an enlarged portal vein in 158 (79 %) patients. There was 83 % sensitivity and 76 % specificity for prediction for presence of large EV when the cutoff value for portal vein diameter was 13.25 mm. There was 77 % sensitivity and 73 % specificity for prediction for presence of esophageal varices when the cutoff value for spleen size was 14.2 cm.

**Conclusions**  Ultrasonography of portal vein diameter and spleen size is a reliable noninvasive tool in predicting the presence of large esophageal varices in patients with liver cirrhosis.

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**eP238  ENDOSCOPIC VS. SURGICAL TREATMENT IN PATIENTS WITH ‘HIGH-RISK’ EARLY ESOPHAGEAL CANCER – WHERE ARE THE BOUNDARIES OF ENDOSCOPIC APPROACH? – A SINGLE-CENTER EXPERIENCE**

**Authors** Hugova K.¹, Kollar M.¹, Hanuslak T.², Snajdauf M.², Pazdro A.², Kodetova D.², Vaclova Z.¹, Spicak J.¹, Martinek I.¹  
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**DOI** 10.1055/s-0042-1745091

**Aims**  Our aims were to evaluate long-term results of endoscopic vs. surgical treatment in patients with high-risk early esophageal cancer (HRC) and to determine its risk of generalization.

**Methods**  We analysed the data of all (241) patients with esophageal lesion who underwent endoscopic mucosal resection or submucosal dissection at our institution. Patients with HRC, who reached 2 years of follow-up or died within 2 years after the procedure were included. We defined HRC as cancer with submucosal (sm) invasion or mucosal (m) invasion with at least one: poor differentiation, invasion to blood (A + ) or lymphatic (L + ) vessels or high tumor cell dissociation. Patients without contraindications were referred to surgery and their lymph nodes were evaluated for the presence of metastases and micrometasases. The remaining patients continued in endoscopic treatment, if necessary. Results of both treatment modalities were compared. Candidate variables for predictors of generalization were analysed.

**Results**

| Table 1 |
|-----------------|-----------------|
| **Endoscopy only** (n = 35) | **Esophagectomy** (n = 30) |
| **Median of follow-up** | 38.5 months | 24 months |
| **Tumor-related mortality** | 7 (20%) | 1 (3.3%) |
| **Procedure-related mortality** | 0 (0%) | 2 (6.7%) |
| **Estimated 5-year disease-specific survival** | 70.8% (95% CI: 89.8–100) | 96.4% (95% CI: 52.5–95.6) |

Sixty-five patients (48 with adenocarcinoma, 17 with squamous cell carcinoma) met the inclusion criteria. The numbers of extraesophageal involvement were: m: 6% (1/17), sm1: 25% (4/16), sm2: 20% (2/10), sm3: 36% (8/22). The only significant predictor was invasion into blood or lymphatic vessels (A + : p = 0.034; L + : p = 0.007). Long-term remission was obtained in 62.9 % of endoscopically treated patients. Table contains the comparison of both groups.

**Conclusions**  Endoscopy provided long-term remission to considerable number of patients with HRC and may represent a valid treatment option in patients contraindicated to surgery. Invasion into blood or lymphatic vessels appears to be the most relevant predictor for generalization.

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**eP239  ENDOSCOPIC MANAGEMENT OF OESOPHAGEAL PERFORATIONS AND LEAKS – 5 YEARS SINGLE CENTRE EXPERIENCE**

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**DOI** 10.1055/s-0042-1745092

**Aims**  The aim of this study is to assess the technical success and outcome of different endoscopic treatment modalities in patients with esophageal perforations.
Methods

- Data was collected retrospectively from May 2017 to September 2021.
- We present a case series of 10 patients (N = 10, 9 men, 1 woman) treated in our unit with iatrogenic and spontaneous oesophageal perforations or anastomotic dehiscences after oesophageal surgery.

Results

- The most common etiology for perforation was iatrogenic or insufficiency of esophagogastic or esophagojejunal anastomosis.
- All of the patients underwent Computed tomography (CT) of the chest and gastroendoscopy.
- Patients were categorized into four treatment groups: 3 primary closures (endoscopic clip placement), 1 primary diversion (stent placement), 5 combination therapy (endoscopic clip closure, followed by stent placement), and 1 endoscopic vacuum therapy.
- Technical and long-term clinical success was achieved in 90% of the patients.
- There was one death due to sepsis and multiple organ failure.
- None of the patients required surgical repair.

Conclusions

Endoscopic management of acute oesophageal perforation is emerging as the primary treatment modality and is less invasive and morbid than surgery. Combination strategies including OTSC clip-closure followed by stenting demonstrates best results with low morbidity and mortality.

eP240V SUCCESSFUL REMOVAL OF A BURIED OVER-THE-SCOPE CLIP IN THE ESOPHAGEAL WALL

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We performed an ESD on a patient with a Barrett’s adenocarcinoma of the distal esophagus. Resection was successful (T1a, L0, V0, Pn0: R0), but an OTSC had to be placed in the resection surface due to massive bleeding. Eight weeks later, the patient presented with severe dysphagia, caused by inflammation and scarring due to the buried OTSC. To overcome the stenosis and to facilitate radiofrequency ablation of the remaining Barrett’s esophagus, the decision for removal was made. A follow-up examination 4 weeks later showed no stenosis and an almost complete mucosal healing, so radiofrequency ablation can be performed.

eP241 ENDOSCOPIC OR SURGICAL MYOTOMY FOR ACHALASIA: AN OBJECTIVE PERSPECTIVE, SYSTEMATIC REVIEW AND META-ANALYSIS

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Aims With the advent of the Lyon consensus, a modern evaluation of reflux, we aim to evaluate the literature comparing POEM to Heller myotomy (HM) for the treatment of achalasia with objective measurements.

Methods We conducted a systematic review of comparative studies between POEM and HM. The outcomes evaluated referred to efficacy, perioperative metrics, safety and updated evaluation of postoperative GERD.

Results 32 studies comparing POEM and HM were included: 30 observational studies and 2 RCTs.

- The success rate (Eckardt score ≤ 3) is higher in POEM (RD 0.07; 95% CI, 0.04 to 0.11; p < 0.0001).
- The operative duration and the length of stay (LOS) at the hospital are both shorter in POEM (respectively, MD -34.33 minutes and -0.43 days; p < 0.0001 and p = 0.005).
- The major adverse events were similar in POEM and HM throughout the Clavien Dindo II-V (RD 0.00; 95% CI, -0.02 to 0.02; p = 0.86).
- The GERD through the Lyon consensus assessment indicates slightly favouring of HM in early EGD within 6 months (RD 0.05; 95% CI, -0.04 to 0.15; p = 0.28) reduces until similar prevalence of postoperative GERD in both approaches in more than 6 months evaluation (RD 0.00; 95% CI, -0.04 to 0.04; p = 0.86).

Conclusions When compared to HM, POEM had higher success rate of treatment of dysphagia, with shorter operative duration and LOS. In addition, when GERD is evaluated through the Lyon consensus, there were a higher incidence of postoperative GERD in POEM without statistical significance. Nonetheless, the difference between the two methodologies tend to resemble with time.

eP242 ESOPHAGEAL STENT PLACEMENT FOR THE TREATMENT OF ANASTOMOTIC LEAK

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Aims Evaluate the efficacy and safety of esophageal stent placement for the treatment of post-surgical esophageal anastomotic leaks.

Methods Retrospective observational study of esophageal anastomotic leaks treated with stents in a tertiary hospital between January 2017 and July 2021. Clinical success was defined as closure of the anastomotic leak after removal of the esophageal stent.

Results 26 patients were included. 17 patients had an esophago-gastric anastomosis and 15 an esophagojejunal anastomosis. The mean anastomotic leak size was 10.5 mm. In 57.7% of patients, a Wallflex stent was placed and in 42.3% a Hannarostent stent. The mean stent length was 124 mm and the mean diameter 20 mm. Placement was guided by scopy in 77% of cases and in 23% by direct endoscopic vision. The median time from surgery was 11 days. The median time from placement to removal of the prosthesis was 37 days. Clinical success was achieved in 14 of the 26 patients (53.8%), in 11 of them after placement of 1 stent and in 4 after 2 stents. In the subgroup of patients with a
Conclusions

Endoscopic stent placement appears to be an effective and safe treatment for esophageal anastomotic leaks. The larger size of the dehiscence and sepsis are factors that decrease the clinical success.

eP243V  A DIFFICULT Z-POEM DUE TO SEVERE FIBROSIS WAS AIDED BY A PARTIAL SEPTOTOMY WITH AN SB KNIFE AND COMPLETED WITH THE Z-POEM TECHNIQUE
Author  Lajin M.1
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A 60-year-old male presented with dysphagia and was found to have a 3 cm Zenker diverticulum. He was referred for endoscopic treatment. A submucosal injection was followed by a mucosal incision at the septum. Severe fibrosis was encountered on the surface preventing access to the submucosal space. The SB knife was used to perform a limited septotomy. Following that the tunnel was entered and the Z poem was resumed with submucosal injections and a complete myotomy. The mucosotomy was closed using clips. Postoperative esophagram showed no leak. On follow-up 2 months later, dysphagia has completely resolved.

eP244V  EUS-GUIDED GASTROJEJUNOSTOMY TO PALLIATE A MALIGNANT DUODENAL OBSTRUCTION IN A PATIENT WITH LOCALLY-ADVANCED Pancreatic CANCER
Author  Lajin M.1
Institute 1 SHARP Health Care, Gastroenterology, San Diego, United States
A 72-year-old male with a recently diagnosed locally advanced pancreatic cancer presented with vomiting. A CT revealed duodenal obstruction at D3. The upper endoscopy showed a malignant duodenal obstruction. The endoscope could not traverse the stricture. A wire was advanced to the proximal jejunum followed by a 7 French catheter. The endoscope was removed keeping the catheter in place.

The proximal jejunum was distended with contrast using the catheter. The target jejunal loop was located on EUS. A 2 cm LAMS was deployed. The LAMS was dilated to 2 cm.

The patient tolerated a soft diet and was discharged home.

Sepsis    15.2    1.9    154
Leak size    1.4    1.07    2.4
Variables    OR    Lower 95 %    Upper 95 %    P-value
Time from surgery    1.02    0.95    1.1    0.5

Conclusions

Evaculation was started and the sponge was switched every two days. After 29 days/12 sponges, 3 of the stoma openings with pale, well-defined borders.

Follow-up 3 months later, she has no dysphagia.

A 50-year-old female with Achalasia II, presented with an Eckardt score of 9. After submucosal injection, a mucosal incision was made using a triangular knife (Endocut current) at the posterior-lateral wall. The tunnel was entered and submucosal dissection was performed with spray coagulation extending the tunnel to 2 cm below the gastric cardia. Following that myotomy was started 6 cm above the GE junction and extended till 2 cm into the gastric cardia. The tunnel entry was closed with clips. A water-soluble esophagram the following day showed no leak. Follow-up 3 months later, she has no dysphagia.

Aims

Anastomotic leak is a serious complication of esophagectomy. Endoscopic vacuum-assisted closure (EVAC) is a promising therapy, but its role in chronic leaks is not well established. We describe the case of a patient with refractory multiple esophageal leaks.

Methods

A 62-year-old male with a large (7x7x5cm) symptomatic epiphrenic diverticulum underwent surgical diverticulectomy and distal esophagostomy (December/2019). Due to esophageal leak with empyema, he was re-intervened twice (leak closure, lateral esophagostomy, esophagus stapling plus jejunostomy), without success. Endoscopic evaluation revealed a 3mm leak, not amenable to clip closure. Esophageal stent placement was proposed, but refused. After 79 days, he was discharged with a patent small leak orifice, under antibiotics and exclusive jejunal feeding. After one year of recurrent pulmonary infections and spontaneous thoracic drainage, he tried to resume oral feeding. EVAC was proposed. The patient was referred to our unit and underwent endoscopic evaluation, showing a dilated, tortuous esophagus with five patent fistula openings with pale, well-defined borders. EVAC was started and the sponge was switched every two days.

Results

After 29 days/12 sponges, 3 of the fistula openings were closed. There were no adverse events. Clip closure was attempted and the patient was discharged with monthly re-evaluation. After 1 month, only one orifice remained, despite the patient’s non-adherence to nil per os.

Conclusions

In a refractory chronic case, EVAC allowed closure of 4/5 fistula openings. Therefore, it seems a safe alternative to consider even in late post-surgical esophageal leaks not amenable to stent placement or surgical correction.

eP247  DEDICATED STENT WITH SHORT PROXIMAL HEAD DESIGN FOR LESIONS AFFECTING THE CERVICAL EOSPHAGUS: CUMULATIVE EXPERIENCE IN A REFERRAL CENTRE
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Institutes 1 Bellvitge University Hospital, Interventional Endoscopy Unit, Barcelona, Spain; 2 Bellvitge University Hospital, Oncology Department, Barcelona, Spain; 3 Bellvitge University Hospital, General Surgery Department, Barcelona, Spain
A submucosal injection was followed by a mucosal incision at the septum. The SB knife was used to perform a limited septotomy. Following that the tunnel was 2 cm below the gastric cardia.

The proximal jejunum was distended with contrast using the catheter. The target jejunal loop was located on EUS. A 2 cm LAMS was deployed. The LAMS was dilated to 2 cm.

The patient tolerated a soft diet and was discharged home.

Follow-up 3 months later, she has no dysphagia.

Aims

Chronic leaks is not well established. We describe the case of a patient with refractory multiple esophageal leaks.

Methods

A 62-year-old male with a large (7x7x5cm) symptomatic epiphrenic diverticulum underwent surgical diverticulectomy and distal esophagostomy (December/2019). Due to esophageal leak with empyema, he was re-intervened twice (leak closure, lateral esophagostomy, esophagus stapling plus jejunostomy), without success. Endoscopic evaluation revealed a 3mm leak, not amenable to clip closure. Esophageal stent placement was proposed, but refused. After 79 days, he was discharged with a patent small leak orifice, under antibiotics and exclusive jejunal feeding. After one year of recurrent pulmonary infections and spontaneous thoracic drainage, he tried to resume oral feeding. EVAC was proposed. The patient was referred to our unit and underwent endoscopic evaluation, showing a dilated, tortuous esophagus with five patent fistula openings with pale, well-defined borders. EVAC was started and the sponge was switched every two days.

Results

After 29 days/12 sponges, 3 of the fistula openings were closed. There were no adverse events. Clip closure was attempted and the patient was discharged with monthly re-evaluation. After 1 month, only one orifice remained, despite the patient’s non-adherence to nil per os.

Conclusions

In a refractory chronic case, EVAC allowed closure of 4/5 fistula openings. Therefore, it seems a safe alternative to consider even in late post-surgical esophageal leaks not amenable to stent placement or surgical correction.
Aims  Analysis of our experience with this type of esophageal stent. Evaluation of its feasibility, safety and efficacy.

Methods  Retrospective, single-center, and descriptive study. All those patients in whom a NITI-S Cervical Esophageal Stent (Taewoong Medical) was placed between 2012 and 2021 were identified from a specific stent database. Demographics, technical and clinical data were collected from diagnostic tests and our health service provider.

Results  Seventeen patients were identified. Demographic and clinical characteristics are summarized in Table 1. The most used stent size was: ESP1610FV (58%). Technical success was 82%. Proximal end-flare deployment: 16cm from incisors (range: 12-19cm). Clinical success (oral diet tolerance) was 100%. Adverse events: 2 distal migrations, 1 ingrowth, with endoscopic resolution; 1 proximal migration and 2 intolerances due to pain that required removal. Mean follow-up: 3 months (SD ± 5.6). Up to 80% of the cases passed away and were related to the malignant disease’s progression.

Table 1

<table>
<thead>
<tr>
<th>Gender (Male/Female)</th>
<th>11 (65 %) / 6 (35 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Mean: 69 years</td>
</tr>
<tr>
<td>Stent Indication</td>
<td>12 (70.6 %) / 3 (18.2 %) / 1 (5.9 %) / 1 (5.9 %)</td>
</tr>
<tr>
<td>Malignant origin</td>
<td>13 (76 %) / 4 (14 %)</td>
</tr>
<tr>
<td>Type of neoplasia</td>
<td>8 (61 %) / 1 (7.6 %) / 4 (31.3 %)</td>
</tr>
</tbody>
</table>

Conclusions  This is one of the most extensive case series reporting the use of this dedicated cervical esophageal stent. The main clinical indication is palliative for severe dysphagia. This stent seems to be effective and a safe option for cervical locations.

eP248  OVERTUBES IN ENDOSCOPY: A SYSTEMATIC REVIEW

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Aims  Overtubes can be very helpful tools for complex endoscopies, such as foreign body extractions. Still, there is a paucity of data regarding other potential uses including placement of self-expanding metal stents and complex endoscopic resections. We aimed describe traditional and novel uses of overtubes in interventional endoscopy.

Methods  A literature search was conducted with multiple variations of the search terms for overtubes in endoscopy. The search engines, Medline and Scopus, were used, from 1966 through October 2021. All human studies (case reports, case series, and cohort studies) were included. EXCLUSION criteria: overtube use for traditional deep enteroscopy (single-balloon, double balloon and spiral enteroscopy). We categorized findings into standard uses and novel uses.

Results  The literature search yielded 1809 results with 108 relevant studies, including 502 patients. Traditional indications were: foreign body extractions, Zenker resection and endoscopic variceal ligation. New uses included: stent placement into the stomach, small bowel and colon, deployment of capsule endoscopy, salvage ERCP in patients with achalasia, placement of PEJ in patients with esophageal cancer of disruption of the anastomosis. overtube-assisted enteroscopy with jejunoscopy, POEM, application of radiofrequency ablation in Barrett, and ESD. Complications although rare included mucosal injury, perforation, fracture of thyroid cartilage, pancreatitis in balloon enteroscopy, and separation of overtube from bite block.

Conclusions  Overtubes have two key functions: 1) as a protective barrier and 2) as a conduit for therapeutic interventions. Therapeutically, it serves as an extra working channel, facilitates intubation of otherwise difficult to reach areas, provides stability, and prevents looping of the GI tract.

eP249  LARGE SUPERFICIAL SQUAMOUS CELL CARCINOMA IN THE SETTING OF ACHALASIA TREATED BY ENDOSCOPIC SUBMUCOSAL DISSECTION: PARTICULAR FEATURES OF SUPERFICIAL CARCINOMA ON STASIS RELATED ESOPHAGEAL HYPERKERATOSIS

Authors  Mesureur L.1, Yared R.1, Verset L.2, Van Laethem J.-L.1, Louis H.1, Deviere J.1, Lemmers A.3
Institutes  1 Erasme Hospital, Gastroenterology Department, Brussels, Belgium; 2 Institut Jules Bordet, Pathology department, Brussels, Belgium

Aims  Methods  Results  A 69-years-old man presented dysphagia and weight loss for several years was referred after the discovery of a 6mm lesion with high-grade dysplasia. Abdominal computed tomography demonstrated stasis and wall thickening of the distal esophagus. High resolution manometry disclosed absent esophageal peristalsis but lower esophageal sphincter acceptable relaxation. Endoscopy revealed in the lower two thirds of the esophagus a keratinized mucosa caused by food stasis in the context of achalasia. A large flat (O-Iib) suspicious squamous dysplastic lesion was observed on 50 % circumference from 30 to 40cm of the incisors.

Examination using magnified narrow-band imaging and the near focus revealed Type B2 intrapapillary capillary loops in favor of mucosal lesion. Lugol chromoendoscopy confirmed the delineation of the lesion and its suspicious feature. En-bloc endoscopic resection using ESD was performed from 29 to 40cm of the incisors up to 60% of the circumference. Stricture prevention with in loco triamcinolone injection was offered associated to proton pump inhibitors treatment.

The histopathological analysis of the 118x95mm resected specimen revealed a squamous cell carcinoma in situ of 100mm with a focal 9mm site of malignancy (pT1am3 moderately differentiated squamous cell carcinoma without lymphovascular or perineural invasion, no tumor budding). Vertical and lateral margins were free. The resection was curative.

Endoscopic follow-up showed complete healing of the ESD scar without stricture or signs of recurrence. Dysphagia and weight loss resolved in the meanwhile.

The particularity of this case is the feature of large superficial SCC in the setting of stasis and keratinized esophagus associated to achalasia.

Conclusions:
Institute

Halberstadt, Germany

Conclusions

person was correlated with the initial OB length (p = 0.01). 62 additional endoscopic interventions with APC or RFA. Their number per intervention. Initial interventions were 14 EMR, 7 RFA and 6 APC. There were length (p = 0.09). 26 patients (11LGD, 9HGD, 6ImCa) underwent endoscopic presented histologic improvement inversely correlated with the initial BO and 8 times greater for BO length > 3cm (p = 0.058). 19 of 41 patients with HGD bidities and 20 were active smokers while 22 former smokers. Of the 52 LGD investigated using standard and high-de

Endoscopy     2022 ;  54 :  S1 – S303    | ©   2022  .   European Society of Gastrointestinal Endoscopy. All rights reserved.

plasma coagulation (APC), radiofrequency ablation (RFA).

Results

67 patients with DBO were re-evaluated from 01/2008 to 09/2021 and 69 were included in the analysis: 55(79.7 %) men, mean age 55.7(± 12.6) years with a follow-up of 396.7 patient-years (median: 4.08, 0.08-19.99). Initially 52(75.4 %) had Low Grade Dysplasia (LGD), 11(15.9 %) High Grade Dysplasia (HGD) and 6(8.7 %) intramucosal carcinoma (ImCa). 36 had significant comorbidities and 20 were active smokers while 22 former smokers. Of the 52 LGD patients, 41 followed surveillance for 159.58 patient-years (median:1.06, R:0.73-11.39). Multivariate regression analysis revealed that the probability of endoscopic intervention was 5 times greater for younger patients (p = 0.00) and 8 times greater for BO length >3cm (p = 0.058). 19 of 41 patients with HGD presented histologic improvement inversely correlated with the initial BO length (p = 0.09). 26 patients (11LGD, 9HGD, 6ImCa) underwent endoscopic intervention. Initial interventions were 14 EMR, 7 RFA and 6 APC. There were 62 additional endoscopic interventions with APC or RFA. Their number per person was correlated with the initial OB length (p = 0.01).

Conclusions 1) A significant percentage of patients with LGD DBO could safely follow endoscopic surveillance. 2) The need of endoscopic intervention is influenced by the age and the initial length of OB. 3) The initial length of OB determines the need for additional interventions

eP250    DYSPLASTIC BARRETT’S OESOPHAGUS (DBO): REAL WORLD DATA REGARDING LONG TERM FOLLOW-UP

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Aims  Evaluation of the long-term follow up of patients with DBO.

Methods  Single center prospective analysis of DBO patients’ data (demographic, endoscopic and histologic) with at least a 6 month follow up and the endoscopic interventions applied: endoscopic mucosal resection (EMR), argon plasma coagulation (APC), radiofrequency ablation (RFA).

Results  76 patients with DBO were re-evaluated from 01/2008 to 09/2021 and 69 were included in the analysis: 55(79.7 %) men, mean age 55.7(± 12.6) years with a follow-up of 396.7 patient-years (median: 4.08, 0.08-19.99). Initially 52(75.4 %) had Low Grade Dysplasia (LGD), 11(15.9 %) High Grade Dysplasia (HGD) and 6(8.7 %) intramucosal carcinoma (ImCa). 36 had significant comorbidities and 20 were active smokers while 22 former smokers. Of the 52 LGD patients, 41 followed surveillance for 159.58 patient-years (median: 1.06, R:0.73-11.39). Multivariate regression analysis revealed that the probability of endoscopic intervention was 5 times greater for younger patients (p = 0.00) and 8 times greater for BO length >3cm (p = 0.058). 19 of 41 patients with HGD presented histologic improvement inversely correlated with the initial BO length (p = 0.09). 26 patients (11LGD, 9HGD, 6ImCa) underwent endoscopic intervention. Initial interventions were 14 EMR, 7 RFA and 6 APC. There were 62 additional endoscopic interventions with APC or RFA. Their number per person was correlated with the initial OB length (p = 0.01).

Conclusions 1) A significant percentage of patients with LGD DBO could safely follow endoscopic surveillance. 2) The need of endoscopic intervention is influenced by the age and the initial length of OB. 3) The initial length of OB determines the need for additional interventions

eP251    ESOPHAGEAL VESICLES: ESOPHAGIC, HISTOLOGIC AND ELECTRONOMICROSCOPIC DESCRIPTION OF NOVEL LESIONS AT THE GASTROESOPHAGEAL JUNCTION

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Aims  During upper endoscopy we have often observed the presence of small yellow vesicles above the Z-line. These lesions have not been described in the literature. Methods  Patients undergoing EGD for dyspepsia and reflux symptoms were investigated using standard and high-definition white light endoscopes with magnification (up to x110) capability (Olympus, Q160Z, Germany). Histology was performed using H&E. In 10 patients we also performed electron microscopy (7000x, Phillips, Holland). All additional lesions found in the esophagus and stomach were carefully described. The occurrence of these yellow vesicles was analyzed in the context of these lesions using uni- and multivariate analysis, Mann-Whitney and Student t-test.

Results  A total 197 were included (102 women and 95 men, mean age 55.5, SD 15). The incidence of yellow vesicles was 30 % of EGDs. Some lesions had a shape of a “volcano” with cylindrical epithelium on its tip. Their sizes ranged from 3 mm to 10 mm. These yellow vesicles had a significant correlation with cylindrical esophageal epithelium (including Barrett esophagus) (p = 0.009) and inverse correlation with erosive esophagitis (p = 0.024) and female sex (p = 0.011). Histology and electron microscopy demonstrated submucosal glands and cylindrical epithelium, including pancreatic and gastric metaplasia, similar to classic “inlet patches”.

Conclusions  Yellow vesicles in the distal esophagus were found in 30 % of patients undergoing EGD and correlated with Barrett’s esophagus, with negative correlation with female sex and erosive esophagitis. These small vesicles contain submucosal glands and gastric metaplasia and could be thus considered esophageal “outlet patches” (heterotopies).
eP254 DIGESTIVE NEO-EPITHELIZATION AFTER ENDOSCOPIC STENTING FOR COMPLETE UPPER DIGESTIVE TRACT DIS UNION

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Aims Complete digestive disunion due to anastomotic leakage is considered as a total contra-indication to endoscopic repair. However, recent publications showed possibility of endoscopic treatment by insertion of SEMS. The aim of this series is to show the possibility of endoscopic management of some selected cases with complete digestive disunion.

Methods Consecutive patients with complete and circumferential upper-GI anastomotic disunion were treated in two European tertiary care centers between 2009 and 2020 by endoscopic insertion of SEMS. Treatment was performed with therapeutic gastroscopy under general anesthesia.

Results A total of 7 patients (4mals; median age:60, range:49-77) with complete digestive disunion were successfully treated by endoscopy. Three patients (43 %) had a malignant disease. First endoscopy was performed after a median of 14 days after the surgery (range:2-30). In 4 patients, a previous surgical or percutaneous drainage was attempted. Three patients (43 %) experienced distal migration of SEMS (20% of all placed stents), without precluding the healing. There was no other complication.

All completely healed after a median of 8 weeks (range:4-32) of stenting, needing a median of 3 endoscopic sessions (range:2-6) with a median number of 2 SEMS insertion (range: 1-6) by patient. Six patients had a median follow-up of 38 months (range:20-120). Among them, three patients (50 %) experienced a stricture, all successfully treated by endoscopic dilation (median of 3 sessions; range:2-8). No patient experienced recurrence of leakage.

Conclusions This case series showed that complete digestive rupture could be, in selected cases, successfully treated by endoscopy, adding a proof-of-concept about a guided tissue regeneration alongside SEMS.

eP255 ESOPHAGEAL STENTS IN THE PALLIATIVE TREATMENT OF MALIGNANT STENOSIS

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Aims To evaluate the efficiency of the placement of an esophageal stent in a palliative treatment of malignant stenosis.

Methods We conducted a descriptive retrospective study about all the patients to whom we put an esophageal stent as a palliative treatment of malignant stenosis.

Results The study was about 11 patients including 8 men (73 %) and 3 women (27 %). The average age of the patients was 53 years (30-83 years old). Six patients (54,5 %) had an esophageal adenocarcinoma, four cases (36,5 %) had an extrinsic compression of a bronchial cancer including one case complicated with an eso-bronchial fistula, and one patient had an extrinsic compression by metastatic mediastinal lymphadenopathies. The stenosis was in the lower esophagus in 6 cases (64 %) and in the middle esophagus in the rest. The average extent of the stenosis was at 2,2cm (1,5-7cm). The metallic esophageal stent was successfully put in all the patients. It was non-covered in 5 cases (45,4 %), partially covered in 3 cases (27,3 %), and fully covered for 3 patients (27,3 %) in whom one had an eso-bronchial fistula. We observed an intra-gastric migration of a fully covered stent in one case. All our patients had presented an improvement of their swallowing quality. The dysphagia recurred 2 months after the gesture in one patient, due to the progression of his tumor.

Conclusions The placement of a metallic esophageal stent is a palliative treatment of choice for intrinsic or extrinsic esophageal malignant stenosis. It allows an improvement of the quality of life of those patients whose prognosis is bad.

eP256 ACCURACY OF AAR, APRI, FIB-4 AND MELD SCORES AS PREDICTORS OF A VARICEAL SOURCE AMONG CIRRHOTIC PATIENTS PRESENTING WITH UPPER GASTROINTESTINAL BLEEDING

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Aims In patients with cirrhosis admitted with upper gastrointestinal bleeding (UGB), identification of a variceal source prior to endoscopy would be clinically useful. We determined the accuracy of aspartate aminotransferase to alanine aminotransferase ratio (AAR), aspartate aminotransferase to platelet ratio index (APRI), fibrosis-4 index (FIB-4) and model for end-stage liver disease (MELD) in identifying a variceal origin of UGB in cirrhotic patients.

Methods Cirrhotic patients undergoing upper endoscopy for UGB between 7/2019 and 10/2021 were retrospectively reviewed. Diagnostic accuracies were assessed using the area-under-receiver-operating-characteristic-curve (AUROC) with 95 % confidence intervals (CIs).

Results Overall, 59 patients (74.6 % males, 61.3 ± 11.9 years) with cirrhosis of different etiologies (alcohol = 22, viral hepatitis = 18, non-alcoholic steatohepatitis = 6, other = 13) were included. Among them, 45 (76.3 %) had esophageal varices (EVs) and in 39 (66.1 %) varices were identified as the culprit of UGB. The most common cause of non-variceal bleeding were peptic ulcers (10/59; 16.9 %). The AUROCs for predicting the presence of EVs were AAR 0.51 (95 %CI: 0.35-0.67), APRI 0.54 (95 % CI: 0.35-0.73), FIB-4: 0.47 (0.31-0.64) and MELD 0.42 (95 %CI: 0.24-0.59). For identifying a variceal source of UGB, the AUROCs were AAR 0.48 (95 %CI: 0.32-0.64), APRI 0.41 (95 % CI: 0.24-0.57) FIB-4 0.41 (95 %CI: 0.25-0.57) and MELD 0.40 (0.22-0.53).

Conclusions AAR, APRI, FIB-4 and MELD exhibited low performance for predicting the presence of EVs and for identifying a variceal source in patients with cirrhosis admitted with UGB.

eP257 ENDOSCOPIC DILATATION OF ESOPHAGEAL STRICUTURE IN A YOUNG ADULT WITH EPIDERMOLYSIS BULLOSA DYSTROPHICA

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Aims A 26-year-old patient with a history of epidermolysis bullosa, visited our department due to gradually worsening dysphagia, mainly in solid foods, with multiple episodes of bolus infarctions within a year.

Methods Cervical-choes CT scans, esophagogram and esophageal manometry were performed with no specific findings. However, the esophagogram showed a reduced width of the esophageal lumen with concomitant thickening of its mucosa and an irregular wall with filling defects and small sharp incisions. Gastroscopy was then performed, where due to narrowing below the upper esophageal sphincter (UES), no further passage of the gastroscopy was allowed.

Results The esophageal mucosa appeared hyperemic, with spontaneous fragility and oozing self-limited bleeding from vesicular overgrown lesions, which
formed and fell during endoscopy in real time, both from the infusion of the esophagus with carbon dioxide and from the contact of the gastroscope with the esophageal mucosa. A bronchoscope connected to a water pump was then used, with an outer tube diameter < 6 mm that approached the 3.5 cm stenosis and placed a direct atrumatic guide wire directly into the stomach. At the same time, a 10 mm air balloon (3 attempts lasting 1 minute each) of the esophageal stenosis was performed with a successful passage into the stomach and without immediate complications. The patient was immediately placed in a high viscosity oral solution of budesonide 1 mg/10 ml for 1 month with concomitant antifungal gel.

Conclusions Finally, the optimal endoscopic and pharmacological management and treatment of specific adult patients with esophageal recurrent stenoses of the blistering epidermolysis type remains the subject of further research and study.

eP258 ENDOSCOPIC VACUUM THERAPY FOR PATIENTS WITH ESOPHAGEAL PERFORATION: A MULTI-CENTER RETROSPECTIVE COHORT STUDY

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Aims Esophageal perforations, due to vomiting (Boerhaave syndrome) or iatrogenic cause, are associated with high morbidity and mortality. Recently, endoscopic vacuum therapy (EVT) was introduced as new treatment option for esophageal perforations. The aim of this study was to describe outcomes of initial experiences with EVT for treatment of these perforations.

Methods For this retrospective multi-center cohort study, all patients primarily treated with EVT for esophageal perforation at three European centers, from Jan 2018-Oct 2021, were included. Data on patient characteristics, EVT and outcomes were analyzed. The primary endpoint was success rate, meaning closure of the defect, assessed by endoscopy or CT-scan.

Results 18 patients were included (Table 1). Successful EVT was achieved in 16 patients, with 12 patients using EVT alone. Additional treatment modalities (stent, clips or intercostal muscle-flap placement intracavitary) were used in 4 patients. In 2 patients EVT failed: 1 deceased during treatment (unknown cause) and 1 underwent additional esophagectomy because the defect persisted. Median hospital stay was 17 days, with median EVT-duration of 11 days and 3 EVT-related endoscopies. Six patients received additional percutaneous/surgical drainage. EVT-associated complications occurred in 2 patients: 1 iatrogenic increase of the defect occurred during overtube placement, and 1 hemorrhage occurred, requiring blood transfusion, which spontaneously stopped.

Table 1 Baseline characteristics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of patients, n</td>
<td>18</td>
</tr>
<tr>
<td>Male</td>
<td>10</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
</tr>
<tr>
<td>Age in years, mean (range, SD)</td>
<td>69.9 (39–81, 11.8)</td>
</tr>
<tr>
<td>Etiology of defect, n</td>
<td>18</td>
</tr>
<tr>
<td>ESD</td>
<td>5</td>
</tr>
<tr>
<td>Boerhaave syndrome</td>
<td>3</td>
</tr>
<tr>
<td>Dilatation</td>
<td>3</td>
</tr>
<tr>
<td>EUS</td>
<td>1</td>
</tr>
<tr>
<td>Glass ingestion</td>
<td>1</td>
</tr>
<tr>
<td>Diverticulotomy of Zenker’s diverticulum</td>
<td>1</td>
</tr>
<tr>
<td>Placement of duodenal tube</td>
<td>1</td>
</tr>
<tr>
<td>Rigid esophagectomy with removal of a foreign body</td>
<td>1</td>
</tr>
<tr>
<td>ERCP</td>
<td>1</td>
</tr>
<tr>
<td>TEE</td>
<td>1</td>
</tr>
</tbody>
</table>

Conclusions EVT is a promising organ-preserving treatment for esophageal perforation, with a success rate of 89%. Although additional intervention was necessary in some cases, esophagectomy was only required in one patient. More experience with the technique and indications for use will likely improve success rates.

eP259 VARIUCE BLEDING DIFFERENCES BETWEEN 2010 AND 2020 – A SINGLE CENTRE EXPERIENCE

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Aims The aim of this study was to demonstrate differences in epidemiological, clinical and endoscopic characteristics of variceal bleeding and outcomes between 2010 and 2020.

Methods From January to December 2010 a total of 20 patients and from January to December 2020 a total of 14 patients were treated for variceal bleeding. They were screened and enrolled in the study.

Results There was no significant difference in age [2010 (53.3 ± 10.1) vs. 2020 (62.0 ± 15.7)]. Majority of patients were men [2010 (16/80 %) vs. 2020 (11/79 %)]. In
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2010 all patients had alcohol-related liver disease (ARLD) as the cause of portal hypertension (PH) while in 2020 10/70% of the patients had ARLD (P < 0.001). Other causes of PH were primary biliary cirrhosis, hepatitis B and hepatocellular carcinoma. Initial haemostasis was successful in the majority of patients [2010 17 (85%) vs. 2020 14 (100%)]. N-butyl cyanoacrylate was used for initial haemostasis for 15 (75%) of patients in 2010. In 2020 gummi band and mini loop ligation were used in 9 (64%) patients, which is a significant rise (P = 0.006).

The most common type of bleeding prophylaxis were gummi band and mini loop ligation for both time periods [2010 10/50% vs. 2020 11/78%]). 30-day mortality was not significantly different [2010 1 (5%) vs. 2020 1 (7%)].

Conclusions Patients with variceal bleeding were predominately men and leading cause of PH was ARLD in both time periods. Majority of patients had initial haemostasis with N-butyl cyanoacrylate in 2010, while in 2020 gummi band and mini loop ligation were more prevalent.

eP260 CHROMOENOSCOPY WITH IODINE-POTASSIUM IODINE SOLUTION IMPROVES THE DETECTION OF EOSINOPHILIC ESOPHAGITIS

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Aims Eosinophilic esophagitis (EoE) is a chronic immune-mediated condition characterized by eosinophilic infiltration of the esophageal mucosa. Endoscopic findings in EoE may be non-specific. The diagnosis is confirmed on histology. Multiple biopsies from ≥ 2 segments are generally recommended but are occasionally negative due to a patchy distribution of EoE. This study aimed to evaluate whether chromoendoscopy with iodine-Potassium iodine (IPIS) in the esophagus can improve the detection of EoE.

Methods Patients with dysphagia and suspected EoE underwent gastroscopy with IPIS 1% staining of the esophagus. An adequate number of biopsies were taken in ≥2 segments of the esophagus. In patients with heterogeneous staining from IPIS, selective biopsies were taken from areas with and without IPIS staining.

Results 50 patients were included, of whom 30 had histologically proven EoE. All patients with EoE had diminished uptake of IPIS. Among patients with EoE, five had segmental and nine had a patchy disease. Six patients with other esophageal mucosa diseases, but no EoE had diminished uptake of IPIS. In patients with segmental or patchy EoE, the median number of eosinophils was characterized by eosinophilic inflammation in EoE may be non-specific.

Results

Conclusions Chromoendoscopy with IPIS may be an useful in vivo technique for identifying EoE during endoscopy, and may allow targeted biopsies in patients with segmented or patchy disease.

eP261 PREDICTIVE FACTORS OF REBLEEDING AFTER THE FIRST ENDOSCOPIC THERAPY OF ESOPHAGEAL VARICEAL HEMORRHAGE

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Aims Variceal rebleeding describes bleeding that occurs ≥ 120 hours after the first hemorrhage provided that hemostasis was initially achieved. It is associated with a high rate of mortality. This study aims to determine the independent factors associated with recurrent variceal bleeding in cirrhotic patients.

Methods 70 cirrhotic with esophageal variceal bleeding (EVB) admitted to our hospital between 2018 and December 2021 were retrospectively analyzed. We distinguish between rebleeding and non-rebleeding group. Demographic information, medical histories, and laboratory test results were collected. The multivariate analysis was performed using Cox regression test to identify independent risk factors of rebleeding. Survival analysis was estimated using the Kaplan–Meier method and compared using the log-rank test.

Results The incidence of rebleeding after EVL was 64%. By univariate regression analysis, the statistically significant predictor for variceal rebleeding was the presence of high stigmata of bleeding on upper endoscopy (p=0.05). Furthermore, we presume that recurrent hemorrhage is associated with a higher incidence of bacterial infection (p=0.006). However, we found that other parameters such as age, gender, etiology, severity of liver disease (ascites, encephalopathy, hepatocellular carcinoma, portal vein thrombosis), severity of EVB (hemoglobin, blood pressure, requirements of blood transfusion), and the duration of rebleeding had no significant impact on the risk of rebleeding. The median survival was lower in rebleeding group calculated at 6 years versus 10 years in the non-rebleeding group (p<0.007).

Conclusions This study provides evidence that recurrent hemorrhage is significantly associated with a higher incidence of bacterial infection and stigmata of bleeding on upper endoscopy. We conclude also that there is no significant difference in median survival between bleeding and non-rebleeding groups.

eP262 CLINICAL AND ENDOCOSCOPIC CHARACTERISTICS OF PATIENTS WITH RECURRENT ESOPHAGEAL VARICEAL HEMORRHAGE

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Aims Esophageal variceal bleeding is the most severe complication in cirrhotic patients with high frequency of rebleeding and mortality. This study aimed to identify characteristics and mortality rate of cirrhotic patients with recurrent variceal hemorrhage.

Methods Retrospective study conducted between 2018-December 2021. include cirrhotic patients with early recurrent VH within 6 weeks (group A) and late rebleeding (group B). Clinical and endoscopic characteristics of patients were analyzed.

Results 45 patients with recurrent VH were included in this study. 13 patients had an early recurrent VH and 35 patients had late rebleeding. Median age was 61 VS 68 years with female predominance in the second group (B). 71% in group A had an advanced hepatopathy; however 50% of patients in group B had compensated cirrhosis. All patients benefited from medical management of varical hemorrhage. 42% of group A VS 12% of group B had hemodynamic instability at admission, 50% required blood transfusion in group A [2-5 CGR] and 48% in group B [1-3 CGR]. 50% VS 22% of patients in two groups respectively had high risk stigmata of bleeding in gastroscopy. The most frequent bleeding source was esophageal varices(100% VS 75% of large varices with red markers in group A and B respectively) followed by gastroduodenal ulcer bleeding (7% in only group A) and gastric varices (6% in group B exclusively). The mortality rate of patients with early recurrent hemorrhage was 42% VS 25% in the second group (p<0.03); taking into account that 66% of those patients in group A VS 37% of group B died of uncontrolled bleeding.

Conclusions This study provides evidence that cirrhotic patients with early rebleeding are unstable, had an advanced hepatopathy, more stigmata of bleeding on gastroscopy and high risk of mortality.
eP263  ANTI-REFLUX VERSUS CONVENTIONAL SELF-EXPANDING METAL STENTS (SEMS) IN THE PALLIATION OF ADVANCED ESOPHAGEAL CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CLINICAL TRIALS

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Institutes  1 Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo – HC/FMUSP, Gastrointestinal Endoscopy Unit, São Paulo, Brazil; 2 University of Alabama at Birmingham Heersink School of Medicine, Department of Internal Medicine Division of Gastroenterology & Hepatology, Birmingham, United States; 3 Brigham and Women’s Hospital – Harvard Medical School, Gastroenterology, Hepatology and Endoscopy, Boston, United States


Aims  Conventional self-expanding metal stents (SEMS-NV) are an effective palliative therapy to reduce dysphagia and improve the patient’s nutritional status. Gastroesophageal reflux disease (GERD) is a common adverse event after the use of SEMS, and it has been proposed that valved SEMS (SEMS-V) could improve the quality of life of patients. This is a systematic review and meta-analysis that includes only randomized clinical trials (RCTs) and that aimed at comparing SEMS-V versus SEMS-NV in the palliation of advanced esophageal cancer.

Methods  A comprehensive search of multiple electronic databases to identify RCTs comparing SEMS-V and SEMS-NV was performed following the PRISMA guidelines. The risk of bias was assessed by RoB 2 tool, data were analyzed with Comprehensive Meta-Analysis V5.4, and quality of evidence by GRADE.

Results  Ten RCTs evaluating a total of 467 patients, with 234 in the intervention group (SEMS-V) and 233 in the comparison group (SEMS-NV). There were no statistically significant differences in post-procedure dysphagia (RD: −0.07; 95% CI: -0.19, 0.06; p = 0.30; I² = 0%), post-procedural complications (RD: 0.07; 95% CI: -0.07, 0.20; p = 0.32; I² = 59%), or technical success (RD: -0.03; 95% CI: -0.19, 0.06; p = 0.30; I² = 59%). Post-procedural complications were more frequent in the SEMS-NV group. Regarding stent migration, no significant difference was identified (RD: 0.07; 95% CI: -0.02, 0.15; p = 0.11; I² = 0%).

Conclusions  SEMS-V and SEMS-NV are both safe and effective therapies in the palliation of advanced esophageal cancer. Our study grouped SEMS-V with different anti-reflux mechanisms and therefore future clinical trials are warranted to evaluate potential differences in GERD between different mechanisms.

Fig. 1

Using a standard or pediatric gastroscope, we expose the cricopharyngeal septum with a “duck’s beak” overtube. Under endoscopic view, we use the Ligasure (a surgical device normally used in laparoscopic surgery) to cut the septum. This allow a precise section, sealing and hemostasis of the tissue. The tip of the device is about 2 cm long, usually no more than 2-3 cuts are necessary. The advantages over other methods is that it’s easy, safe and very fast to use.

eP265V  ESOPHAGEAL STRicture SECONDARY TO A LARGE CIRCUMFERENTIAL SQUAMOUS LESION REMOVED BY MULTI-TUNNEL ENDOSCOPIC SUBMUCOSAL DISSECTION

Authors  Rodríguez de Santiago E.1, Peñas García B.1, Parejo Carbonell S.1, García García de Paredes A.1, Vazquez-Sequeiros E.1, Albillos Martínez A.1

Institute  1 University Hospital Ramón y Cajal, Universidad de Alcalá, IRYCIS, Gastroenterology and Hepatology, Madrid, Spain


A 56-year-old female presented with food impaction. From 16 to 29 cm from the incisors, we visualized a circumferential lib lesion that prevented the passage of the conventional gastroscope. We made a first submucosal tunnel up to 29 cm from the incisors. Submucosal dissection of the stenotic area (fibrotic and highly vascularized) allowed subsequent access to the distal margin so that we could carry out the distal circumferential incision. We then performed two additional parallel submucosal tunnels. We used traction (clip + thread) to facilitate dissection of the intertunnel submucosa. Size: 130x30mm. Histology: pT1a squamous cell carcinoma with lymphovascular invasion.

eP266  RISK FACTORS FOR REFRACTORY BENIGN ESOPHAGEAL STRICTURES

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Aims  Endoscopic dilatation remains the mainstay of therapeutic management of benign esophageal strictures. They can be caused by various disorders or lesions of the esophagus. Our aim is to report the results of dilatation, as well as the different risk factors of refractory benign esophageal strictures.

Methods  This is a retrospective descriptive and analytical study of 33 patients with benign esophageal stenosis who underwent endoscopic dilatation between 2016 and 2021. Refractory (or recurrent) stenosis was defined as the inability to maintain esophageal caliber at 14 mm diameter over 5 dilatation sessions, or the inability to maintain satisfactory luminal diameter for 4 weeks once a 14 mm diameter was achieved.

Results  Of the 33 patients who underwent dilatation for benign esophageal strictures, 38.7% had refractory stenoses. The mean age was 50 ± 20.9 years with a sex ratio (M/F) of 2.

All patients had dysphagia and 45.5% had chronic gastroesophageal reflux disease (GERD). Endoscopy revealed low stenosis in 65.6%, medium in 15.6% and high in 18.8%. 50% had peptic stenosis, 31.3% achalasia, 9.4% anastomotic, 6.3% Schatzki ring and 3.1% caustic.

78.8% of the stenoses were dilated by balloon and 21.2% by candles with a mean dilatation caliber of 18.8 ± 6.8 mm.

After univariate analysis, refractory stenoses were associated with the presence of a peptic stenosis (p = 0.002) and dilatations of caliber less than 16mm (p = 0.012), after multivariate analysis only peptic stenosis was associated with refractory stenoses (p = 0.034).

Conclusions  In our series, refractory stenosis was present in 38.7%. Peptic stenosis was statistically significantly associated with refractory oesophageal stenosis.
**eP267** INFLUENCE OF ANTICOAGULATION THERAPY ON THE OUTCOME OF NONVARICEAL UPPER GI BLEEDING IN PATIENTS REQUIRING INTENSIVE CARE TREATMENT

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**DOI** 10.1055/s-0042-1745120

**Aims** To assess therapeutic anticoagulation influence on therapy of patients requiring admission to the ICU due to nonvariceal upper GI bleeding.

**Methods** Comparison of 50 patients of nonvariceal upper GI bleeding admitted to ICU with therapeutic anticoagulation to 50 without over the course of 5 years.

These were compared in duration of ICU stay, hemodynamics, lactate and Hb levels, vasopressor therapy, transfusion needs, endoscopic treatment, Forrest classification of ulcer and OTSC usage.

These were compared using Chi-Square test and t-test.

**Results** On arrival patients undergoing anticoagulation therapy showed a similar median systolic blood pressure of 102.10 mmHg (SD = 25.37), compared to 106.25 mmHg (SD = 30.86; p = 0.499), without relying on vasopressor support more frequently (13 / 25.5 % vs. 16 / 31.4 %; p = 0.510). The mean Hb was 7.6 g/dl (SD = 2.92) compared to 7.8 g/dl (SD = 2.81). 23 patients required transfusion therapy (45.1 %) compared to 22 (43.1 %; p = 0.842). Lactate levels, vasopressor therapy, transfusion needs, endoscopic treatment, Forrest classification of ulcer and OTSC usage.

**Conclusions** Patients with nonvariceal upper GI bleeding admitted to the ICU receiving therapeutic anticoagulation showed similar therapeutic needs compared to those without. Particularly the recurrent bleeding episodes did not increase. Limitations included retrospective study design and missing follow-up and data.

**eP268** CIRCUMFERENTIAL ENDOCOSCOPIC SUBMUCOSAL DISSECTION FOR LONG-SEGMENT BARRETT’S ADENOCARCINOMA: THE DOUBLE-TUNNEL AND SINGLE CLIP-AND-LOOP TRACTION METHOD

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We report a successful endoscopic submucosal dissection of a long-segment Barrett's esophagus (C10M12) adenocarcinoma, using a double-tunnel and single clip-and-loop traction method. After placing markings and submucosal injections, a distal mucosal incision was performed to set up the tunnel distal limit. A submucosal tunnel was created on the anterior wall, where good access is allowed by gravity, and it was extended in the cranial-caudal direction. Subsequently, a posterior tunnel was created with a loop-clip applied on the inferior pillar, to facilitate the anti-gravity access and expedite the submucosal exposure. A 12 cm en-bloc specimen (T1,R0) was extracted in 300 minutes.

**eP269** SAFETY AND EFFECTIVENESS OF ENDOCOSCOPIC SAVARY-GILLIARD DILATOR IN PATERN-SON-BROWN-KELLY SYNDROME PATIENTS

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**DOI** 10.1055/s-0042-1745122

**Aims** Paterson-Brown-Kelly syndrome (PBKS) is a rare entity characterized by iron-deficiency anemia, dysphagia, and upper esophageal webs. Treatment consists of mechanical dilation and iron supplementation. The aim of the study was to evaluate safety and effectiveness of Savary-Gillard bougie dilation for the treatment of PBKS.

**Methods** This is a descriptive, retrospective study of PBKS patients followed up at a tertiary center from 2009 to 2018 who underwent endoscopic dilation of the web by Savary-Gillard bougie dilator. For each patient, we collected clinical data, therapeutic procedure and outcome.

**Results** Twenty patients were enrolled with a median age of 47.36 years and a sex ratio of 0.05. The median duration of dysphagia was 39 months. Iron deficiency anemia was present in all patients with a mean value of hemoglobin of 8.6 g/dl. Upper endoscopy confirmed the presence of a web in the cervical esophagus in 100 % of cases. Treatment was based on iron supplementation followed by endoscopic dilation with Savary-Gillard dilators. There was no complication as serious bleeding or perforation after dilation session and esophageal passage through the esophagus easily. Dysphagia recurred in 4 patients after a median of 25.7 months.

**Conclusions** Our series confirms that endoscopic Savary-Gillard dilation, associated with iron supplementation, is safe and effective for the management of esophageal webs in PBKS patients.

**eP270** CLINICAL OUTCOMES AFTER ENDOCOSCOPIC DILATATION OF EOSPHAGEAL PEPTIC STRICURE

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**DOI** 10.1055/s-0042-1745123

**Aims** Esophageal peptic stricture (EPS) is the endstage result of chronic gastroesophageal reflux disease. Treatment usually include endoscopic dilation combined with medical therapy. We aimed to determine the procedural outcomes and recurrence rates after endoscopic dilation of EPS.

**Methods** Patients who underwent endoscopic dilation of an EPS in a university Hospital (2002–2017) were retrospectively reviewed. We studied the endoscopic and therapeutic parameters. Procedure dilation was performed with Wire-guided dilators (Savary-Gilliard) or Polyethylene balloon dilators. Technical success was defined as resolved dysphagia.

**Results** Thirty-eight patients were enrolled (66 % male; mean age 61.2 ± 4 years). All patients had dysphagia at the time of diagnosis. Stricture was located in the lower third of the esophagus in 37 cases. Its average extent is 34.24 mm. A hiatus hernia was associated in 22 cases. Brachyosophagus was observed in 7 cases. Clinical success of first endoscopic dilation associated with proton pump inhibitors (PPI) therapy was attempted in 80 % of cases. Two dilation sessions (1 - 5) were needed, on average, to achieve remission. No serious complications were reported. Surgery was indicated in 7 cases after failure of endoscopic dilations. The failure of endoscopic dilation was significantly associated with an age <50 years (p = 0.006). Brachyosophagus was more frequent in operated patients (p = 0.07). Gender, smoking, and hiatus hernia were not associated with endoscopic dilation failure.

**Conclusions** Based on our experience, endoscopic dilation associated with PPI therapy is safe and effective for the management of EPS. Young patient and brachyosophagus seem to be associated with the failure of this technique.
Conclusions

r = -0.14, p = 0.04; Moderate PHG: r = 0.15, p = 0.04). Severe PHG was associated
with a larger OV (16.7 %, p < 0.01 in moderate PHG) and correlated to its NIEC-grade (Mild PHG:
21 %, p < 0.01 in severe PHG). PHG was significantly associated with
large OV (76.8 %, small-OV: 59.7 %, p = 0.01) and GV (83.3 % vs 69.7 %, p = 0.04) but not with
OV-NIEC-grade (p = 0.11) or GV-type (GV1: p = 0.22, GV2: p = 0.13). Besides, both mild and moderate PHG were associated with
large OV (16.7 %, small-OV: 29 %, p = 0.04 in mild PHG; large-OV: 42 %, small-OV:
21 %, p < 0.01 in moderate PHG) and correlated to its NIEC-grade (Mild PHG:
r = -0.14, p = 0.04; Moderate PHG: r = -0.15, p = 0.04). Severe PHG was associated with
neither large OV (p = 0.13) nor OV-NIEC-grade (p = 0.13).

Conclusions
Apart from severe form, PHG was associated with large OV along
with its grade. It was also associated with GV presence.

eP272V
TRANSORAL INCISIONLESS FUNDOPLICATION WITH ESOPHYX-Z 2.0 FOR THE TREATMENT OF GASTROESOPHAGEAL REFUX AFTER LAPAROSCOPIC HERNIA REPAIR (CTIF). FIRST PROCEEDURE IN EUROPE

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Laparoscopic repair of diaphragmatic crura is done under general anesthesia. Immediately after the hernia repair is completed the Esophyx-Z is introduced through the mouth and advanced into the stomach under direct visualization with the scope inside the device. Then in a retroflexion position an helical retractor is directed towards the Z line, where the tissue is nailed and pulled into the mold, while the device is rotated. Each shot releases two fasteners, which produces the apposition of esophageal and fundic tissue. This process is repeated to create a partial fundoplication of 270 degrees (20 fasteners).

A 75-year-old man diagnosed with Barrett’s C3M7 esophagus which practically extends entirely inside a distal esophageal diverticulum. Two radiofrequency sessions were performed using a 360° circumferential ablation catheter and a third session using a 90° focal ablation catheter. There was evidence of persistence of focal lesions in the intra diverticular area. We used a catheter inserted
through the endoscope channel with a 90° flexible blade, which allowed the access to all the walls of the diverticulum. After a single radiofrequency session with this catheter, complete ablation of the metaplasia within the diverticulum was achieved.

eP275
UPPER DIGESTIVE HEMORRHAGE: CLINICAL, ENDOSCOPIC AND EVOLUTIONARY PARTICULARITIES BETWEEN PATIENTS WITH COMMUNITY AND INTRA-HOSPITAL HEMORRHAGE, PROSPECTIVE STUDY

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Aims
The aim of this study is to compare the clinical, endoscopic and evolutionary particularities between patients with community and intra-hospital hemorrhage.

Methods
This is a prospective cross-sectional study of 332 patients, conducted over a one-year period between June 2020 and August 2021. We divided our patients into 2 groups:

- group A: patients with community hemorrhage
- group B: patients with in-hospital hemorrhage.

Results
For group A the mean age was 58.8 ± 17.2 years with a sex ratio of 2.2. 20.44 % had comorbidities, the endoscopy was abnormal in 88.9 % of cases, the cause was dominated by ulcer origin in 42 % of cases, active bleeding was found in 13.3 % of cases. For group B, the average age was 61.7 ± 14.2 years with a sex ratio of 3.5. 58.7 % had comorbidities, the endoscopy was abnormal in 85.7 % of the cases, the cause was dominated by ulcer origin in 51 %, active bleeding was found in 26.9 % of the cases, 3 cases of death.

A statistically significant difference between the two groups concern the presence of comorbidities (p = 0.01), the use of anti-thrombotic drugs (p = 0.012), the presence of active bleeding (p = 0.008), use of endoscopic haemostatic procedure (p = 0.04), and need for transfusions (p = 0.002). The median Blatchford score was 9 ± 3.5 and 12 ± 3 respectively (p = 0.001). The Rockall score was 4.22 ± 0.079 and 5.04 ± 0.131 respectively (p < 0.01).

Conclusions
Ulcer disease was the main cause. There was a higher transfusion requirement, active bleeding rate, use of endoscopic hemostasis, and mortality for in-hospital bleeding. This appeared to be related primarily to higher comorbidities.

eP276
BLACK ESOPHAGUS – ACUTE NECROTIZIN ESOPHAGITIS (ANE)

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Aims
Acute necrotizing esophagitis is a rare disease diagnosed in critically ill patients. It arises from the corrosive effect of gastric juices on the susceptible, ischemic esophageal mucosa. The main symptoms are coffee ground emesis, melena, dysphagia and epigastric pain. Typically in the distal esophagus we see circumferential, black-appearing esophageal mucosa that sharply stops at the GEJ. The patient is kept nil per os and sufficiently intravenously hydrated. Antibiotics and PPI are also given intravenously. Mediastinitis due to esophageal perforation is a severe complication. Chronic complication is a stenosis treated by balloon dilation.
Methods  Our cohort included four elderly male with many comorbidities, hospitalized with abdominal pain and shortness of breath. Gastroscopy was indicated for the presence of coffee ground emesis in two patients, once due to hematemesis and once due to melena. The parenteral nutrition, antibiotics and PPI were the mainstay of the treatment. In spite of the treatment two of the four patients died.

Results  Pneumonia combined with the progression of the main disease led to the death of the two patients. Chronic symptomatic esophageal stenosis resulted from the ANE in one patient. The stenosis is frequently dilated due to its short-term effect.

Conclusions  ANE is a rare but severe disease with the mortality up to 50%. The possibility of the disease must be considered in severely ill polymorbid patients with coffee ground emesis, hematemesis, or melena. Diagnostic endoscopy must be performed very carefully. The main goal of the complex therapy is to stabilize the patient leading to the reperfusion of the esophagus.

eP277  THE NATURAL COURSE OF UNTREATED NEOPLASIA IN BARRETT’S ESOPHAGUS – A CASE-SERIES

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Aims  Endoscopic therapy (ET) is initiated for Barrett’s Esophagus with HGD to prevent non-curable esophageal adenocarcinoma (EAC). Risk estimates for progression to clinically evident EAC are crucial for rational use of ET. We aimed to evaluate time between HGD-diagnosis in BE and development of clinically evident EAC.

Methods  From the nationwide Dutch Barrett Expert Center registry cases with untreated HGD and follow-up > 12 months were selected. Data was retrospectively collected. Endoscopic follow-up: time between HGD-detection (baseline) and last endoscopy. Vital follow-up: time between baseline and symptomatic EAC, death, or last data collection. Primary outcome: time of progression to clinically evident EAC (= symptomatic EAC (dysphagia) or EAC-related death).

Results  Eleven cases met inclusion criteria (n = 11/2091; mean age 78) with HGD-diagnosis from abnormalities (9/11 pts; 82%) or in random biopsies from flat BE (2/11 pts; 18%). Median endoscopic follow-up was 21 months (IQR2-32) and median vital follow-up 27 months (IQR21-45). Overall, 4/11 patients (36%) progressed to clinically evident symptomatic EAC after median 52 months (range 17-78) and eventually died from EAC. Endoscopic follow-up was terminated median 30 months (IQR16-44) prior to progression. Three patients (3/11) had endoscopic suspicion of progression and underwent endoscopic resection for HGD (n = 1) or T1-EAC (n = 2) after 19-21-26 months. The remaining patients had median 26 months vital follow-up (IQR16-41) without progression and unrelated death (n = 3), or were alive (n = 1).

Conclusions  Even though HGD and early EAC are logical targets for ET, the actual progression to symptomatic disease had a significant duration and this delay may be relevant to consider in patients with a limited life expectancy.

eP278  EFFECTIVENESS OF MODERN ENDOSCOPIC TECHNIQUES IN THE THERAPY OF UPPER VARICEAL DIGESTIVE BLEEDING IN THE ENDOSCOPIC EMERGENCY SERVICE

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Aims  An important aspect of upper gastrointestinal bleeding is, in addition to the emergency addressability in the endoscopy service, the risk of rebleeding after procedure and the postendoscopic diagnosis of patients with variceal digestive hemorrhage. The paper aims to analyze the risk of rebleeding after the endoscopic procedure of emergency hemostasis and the post-interventional prognosis of patients with upper variceal gastrointestinal bleeding.

Methods  The retrospective study was performed on groups of patients who presented to the Emergency Service of the County Emergency Clinical Hospital of Oradea, Romania, in period 1.01.2018-30.08.2018, with clinical manifestation of upper gastrointestinal bleeding and whose endoscopic gastroscopical hemorrhagic lesion of various etiologies were determined. Following endoscopic, clinical and paraclinical analyses, Rockall severity was established in patients, predicting the predictability of hemorrhagic recurrence and mortality.

Results  The correlation between postendoscopic Rockall score and hemorrhagic recurrence showed that the risk of rebleeding increases in proportion to the increase in the value of the Rockall score. Rockall score below 3 have a low risk of bleeding and death, those with a score between 3 and 4 have a moderate risk, scores higher than 4 signifying an increased risk of recurrence of bleeding and unfavorable evolution.
Conclusions The Rockall score is a good predictor of the possibility of rebleeding, post-procedure endoscopic evolution and mortality. The rate of rebleeding, length of hospital stay and mortality in variceal upper gastrointestinal bleeding are directly proportional to the increase in the prognostic risk score.

eP279 3D IMPEDANCE PLANIMETRY IMPROVES PERI-INTERVENTIONAL PROCEDURE IN ENDOSCOPIC THERAPY OF COMPLEX ESOPHAGEAL STENOSIS
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Aims Non-malignant strictures in the upper GI tract causing dysphagia have significant impact on QoL in patients. Esophageal dilation using fluoroscopic control is standard. Especially complex stenosis challenge the interventional endoscopist regarding size and tissue compliance. Tools to evaluate exact stenos configuration without additional X-ray exposure are mandatory. 3D-planimetry could offer the possibility to estimate exact size, diameter and tissue resistance.
Methods A prospective, interventional study was conducted at our endoscopy unit. Patients with complex benign stenosis and clinical symptoms were included. 3D-planimetry supported measurement was performed prior and after bougienage. Primary endpoint was success of endoscopic dilation. Success was defined as sufficient dilation of the stenosis in one endoscopic session with endoscopic passage possible after bougienage. Objective differences were analyzed by 3D-planimetry.
Results 26 patients (m/f, 11/14) participated, mean age was 49.5 years (± 23.2) (range 21-82). Etiology of strictures was peptic (n = 2), radiation (n = 10), anastomosis (n = 5), caustic ingestion (n = 7) or EO (n = 2). Median diameter of strictures before treatment was 6.8mm (± 2.1) and 8.7mm (± 2.6) after, median length 23.4mm (± 16.5). Successful dilatation was possible in 96.1 % (n = 25). No severe complications or adverse events were reported. Length of respective stenosis was underestimated by endoscopist in comparison to 3D-supported measurement (p = 0.016). Analysis of diameter of stenosis (p = 0.014) and CSA (p = 0.037) revealed an objective difference by dilation procedure.
Conclusions Perinterventional measurement by 3D-planimetry enables as well direct visual control of stenosis configuration as documentation of postinterventional dilation effect. This might help to adapt more precisely to the stricture, avoiding additional radiation exposure in endoscopic treatment.

eP280 EARLY VERSUS DELAYED ENTERAL NUTRITION FOLLOWING ENDOSCOPIC VARICEAL BANDING IN LIVER CIRRHOSIS: A SYSTEMATIC REVIEW AND META-ANALYSIS
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Aims Bleeding oesophageal varices is a common complication of liver cirrhosis and are associated with high mortality. It is common practise to fast patients for 24 to 48 hours post variceal band therapy. However, there is paucity of evidence behind this practise and delayed nutrition can be detrimental to this cohort of patients. Our aim for conducting this systematic review was to explore the efficacy and safety of early enteral nutrition versus delayed enteral nutrition post endoscopic variceal banding.
Methods An extensive search was conducted via online databases to find RCTs comparing early versus delayed enteral nutrition in patients post endoscopic variceal banding. The outcomes we evaluated were early re-bleeding rates, delayed re-bleeding rates, overall mortality, new infection rates, new ascites, new dysphagia, chest discomfort rates and length of hospitalisation. Data was pooled using the random-effects model, and the results were presented as Odds Ratio (OR) or Mean Difference (MD) with corresponding 95% Confidence Interval (CI).
Results A total of 283 participants from four RCTs were included in this meta-analysis. Early enteral nutrition was associated with shorter length of stay (Mean Difference: -1.49; 95% CI: -2.17, -0.81; P = 0.0001). There was no significant difference between the early enteral nutrition and delayed nutrition groups for rates of early re-bleeding, delayed re-bleeding, mortality, dysphagia, new infection, chest discomfort or new ascites.
Conclusions Early enteral nutrition does not increase the risk of early or delayed re-bleeding and reduces the length of hospitalisation for patients post endoscopic variceal band ligation.

eP281 PREDICTORS OF BLEEDING AFTER ENDOCOPIC VARICEAL LIGATION
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Aims This study assesses the predictive value of indices as FIB-4 score, APRI score, platelet count/spleen diameter ratio, spleen size, portal vein diameter, MELD score, Child score, laboratory parameters on the presence of bleeding within two months after EVL in the cirrhotic patient.
Methods We retrospectively reviewed endoscopy reports of cirrhotic patients between February 2010-February 2020. Patients with splenectomy, hematological disease, and incomplete data were excluded from the study. Statistical analyses were performed using SPSS. ROC curve analysis was used to determine the cut-off values for predicting post-EVL bleeding.
Results Out of 143 patients, the data of 43 patients were involved. While EVL was performed on 27 (62.8%) patients for secondary prophylaxis, it was performed on 16 (37.2%) patients for primary prophylaxis. The control group consisted of 30 (69.8%) patients. 13 (30.2%) patients had bleeding in 2 months after EVL. 6 (46.2%) patients had post-banding ulcer bleeding, 6 (46.2%) patients had variceal bleeding, 1 (7.6%) patient had portal hypertensive gastropathy related bleeding. There was a significant difference between bleeding and control cases by means of APRI score (p = 0.04), platelet count (p = 0.04). According to ROC curve analysis best cut-off APRI score to differentiate between patients with post-EVL bleeding from control group was 1.2 (Sens: 67; Spec: 63), and the best cut-off for platelets was 74.950/mL (Sens: 61; Spec: 62).
Conclusions Among all parameters, APRI score and platelet count were statistically significant. Both parameters may be used to predict bleeding events after EVL. Large-scale, prospective studies are needed for further conclusions.

**ep282 GERD QUESTIONNAIRE SCORE IS A SIGNIFICANT PREDICTOR OF HISTOLOGICALLY PROVEN REFLUX ESOPHAGITIS**

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**Aims** To study the predictive value of GERD Q score in the diagnosis of histologically proven reflux esophagitis (HPRE).

**Methods** GERD questionnaire (Q) is composed of 6 items, 4 positive predictors for GERD: heartburn, regurgitations, sleep disorders and use of over-the-counter products & 2 negative predictors, nausea and epigastric pain. Score of symptoms (during last week) using a scale from 0 to 3 for positive predictors and from 3 to 0 for negative predictors. It was considered positive if the score was > 8 points. Los Angeles (LA) class of GERD using both white light endoscopy (WLE) & I-scan 2 was done. Biopsies was taken from the four quadrants of the lower esophagus. Histological examination of the samples was performed and combined severity score (CSS) was calculated.

**Results** This study involved 60 patients, 28 males (46.7%) and 32 females (53.3%) with median age of 40 (30.3 – 59.8) years. GERD Q was higher (11.4 ± 1.8) in cases with HPRE than cases without (10.3 ± 1.3) (p = 0.026). There was a statistically significant positive correlation between GERD Q score and both CSS (r = 0.311 & P = 0.016) and LA class by I-scan 2 (r = 0.280 & P = 0.030). Male gender & GERD Q score ≥ 12 were significant independent predictors of HPRE (OR = 6.8 & 95% CI = 1.8-26, OR = 6 & 95% CI = 1.4-26 respectively). At cut off value of GERD Q = 11 points, the AUC for prediction of HPRE was 0.66, sensitivity was 47.5% & specificity was 85% (curve).

**Fig. 1**

**Conclusions** GERD questionnaire score is a significant predictor of histologically proven reflux esophagitis. It correlates with the combined severity score & Los Angeles classification of GERD.

**ep283 SCREENING FOR HEAD AND NECK TUMOURS IN PATIENTS WITH OESOPHAGEAL SQUAMOUS CELL CARCINOMA AND VICE VERSA: A NATIONWIDE SURVEY AMONG MEDICAL SPECIALISTS**

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**Aims** In retrospective studies, minimally 5% of oesophageal (ESCC) and 11% of head and neck squamous cell carcinoma (HNSCC) patients in Western countries developed a second primary tumour (SPT). This study aimed to assess the knowledge and opinions regarding screening for head and neck SPTs in ESCC patients and oesophageal SPTs (ESPTS) in HNSCC patients in the Netherlands.

**Methods** A nationwide survey among gastroenterologists and head and neck (HN) surgeons was conducted between December 2020 and March 2021. The survey focused on the knowledge of medical specialists of the prevalence and opinions towards implementing screening for HNSPTs in ESCC patients and vice versa.

**Results** 128 gastroenterologists (16.0%) and 31 HN surgeons (50.0%) completed the survey. The expected median prevalence of HNSPTs in ESCC was 7.0% (IQR 5.0-15.0) among gastroenterologists and 5.0% (IQR 3.0-8.0) among HN surgeons. For ESPTS in HNSCC, the expected median prevalence was 9.5% (IQR 5.0-12.0) among gastroenterologists and 4.0% (IQR 2.0-5.0) among HN surgeons. Screening for HNSPTs and ESPTS was considered promising by 35.2% and 39.6%, respectively, which increased to 54.7% of the specialists after providing SPT incidence data. 41.3% of HN surgeons felt equally capable as gastroenterologists to perform oesophageal screening.

**Fig. 1**

**Conclusions** This Dutch nationwide survey revealed a lack of knowledge and different perspectives regarding screening to detect SPTs in ESCC and HNSCC patients among specialists. Adequate education seems essential to increase awareness among specialists and improve detection of SPTs, independent of the need for implementation of screening for SPTs in ESCC and HNSCC patients.
Clinical Outcomes in Severe Oesophagitis

**Authors** Grant R.1, Brindle W.1, Rycroft E.1, Oyewole O.1, Morgan S.1, Watson E.2, Masterton G.1, Kalla R.1

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**Aims** To determine if there are differences in clinical outcomes between those with LA grades C and grade D oesophagitis at index oesophago-gastro-duodenoscopy (OGD1).

**Methods** Patients in NHS Lothian with grades C or D reflux oesophagitis at OGD1 between 01/01/14 – 31/12/15 were identified. Univariate analysis identified factors significantly associated with grade.

**Results** 964 patients had severe oesophagitis, 61.7% grade C, 38.3% grade D. Median age was 64.0 years; 54.6% were male. Patients with grade D were more likely to be a current (p = 0.002) or ex-smoker (p = 0.013), have a history of alcohol excess (p = 0.050), have a stricture (p = 0.024), present with a gastrointestinal bleed (p < 0.001), be inpatients (p = 0.001), live in a more deprived deprivation decile (p = 0.001), be deceased at 6 (p = 0.001) and 12 (p = 0.001) months post-OGD1 and at time of notes follow-up (p = 0.001). 39.7% with grade C and 40.4% with grade D had a follow-up OGD (OGD2) (at median of 10.1 weeks). Differences between grades were not statistically significant for Barrett’s oesophagus, dysplasia or oesophageal cancer at OGD1 or OGD2; there was no significant difference regarding strictures on OGD2. (Table 1)

**Conclusions** Patients with grade D oesophagitis at OGD1 were not at greater risk of Barrett’s oesophagus, dysplasia or oesophageal cancer. However, the higher mortality in grade D patients indicates that they may have increased frailty and co-morbidities. As current British Society of Gastroenterology guidelines recommends repeat endoscopy in all with grade D, these data may have implications in the decision to perform further endoscopic procedures in this cohort.

Gastrointestinal Bleeding in Patients with Cirrhosis: Is Urgent Endoscopy Really Necessary?

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**DOI** 10.1055/s-0042-1745138

**Aims** Current recommendations suggest that patients with cirrhosis presenting with acute upper gastrointestinal bleeding (UGIB) should perform endoscopy as soon as possible within the first 12 hours after admission.

**Aim** To evaluate whether urgent endoscopy (≤12hours) improves outcomes in patients with cirrhosis complicated with UGIB and to assess it in patients with variceal UGIB versus non-variceal UGIB.

**Methods** Retrospective cohort study that included consecutive patients with cirrhosis admitted for UGIB between January 2011 and June 2020. Demographic, clinical, laboratory and endoscopy data were obtained. Patients were stratified regarding the timing of endoscopy in urgent (≤12 hours) and early groups (12-24 hours).

**Results** One hundred forty-nine patients were included, of whom 74.5% were male, with mean age of 57.4 ± 12.1 years, and 65.8% with variceal UGIB. Endoscopy was performed within 12 hours in 62.4% of patients, with a median timing of endoscopy of 10.3 ± 6.7 hours. Performing endoscopy within 12 hours was associated with higher need of endoscopic treatment (44.3% vs 32.9%; p = 0.02). There were no significant differences in need for transfusion (p = 0.19), length of stay (p = 0.84), rebleeding (p = 0.15), in-hospital mortality (p = 0.59), 30-day mortality (p = 0.75) and 30-day readmission (p = 0.92), between performing endoscopy within 12 hours versus 12-24 hours. Regarding patients with variceal UGIB versus non-variceal UGIB, there were no statistically significant differences in UGIB outcomes in performing endoscopy within 12 hours in the two groups.

**Conclusions** In our cohort, in patients with cirrhosis admitted for acute UGIB, urgent endoscopy was associated with higher need of endoscopic treatment but was not associated with improved outcomes, when compared to early endoscopy.
Table 1

| Acid reflux with normal esophageal clearance | Rapid drop in pH < 4, drop rate ≥ 1 pH unit/second | 10 seconds to 5 minutes |
| Acid reflux with delayed esophageal clearance | Rapid drop in pH < 4, drop rate ≥ 1 pH unit/second | > 5 minutes |
| Acid fermentation | slow drop in pH to < 4, drop rate < 1 unit/minute | > 5 minutes |
| Stasis of ingested acidic food | pH drop to < 4 after ingestion of acidic food or drink | > 5 minutes |
| Unclassified | pH drop to < 4 | Not specified |

Results  Mean age was similar, 40.7 years (60% males) in IEM group vs 43.3 years in the NEM group (60% males), p = 0.498. Mean DCI was significantly lower (272.2 ± 132.9 vs. 2020.6 ± 559.4; p = < 0.001) in IEM group. AET significantly higher in IEM group. Most common acidification pattern in IEM group was ARD (26/40; 65%) followed by ARN (11/40; 27.5%) and AF (3/40; 7.5%). Predominant pattern in NEM group was ARN (13/20; 65%) followed by ARD (5/20; 25%) and AF (2/20; 10%).

Conclusions  Predominant acidification pattern in GERD patients with IEM was found to be ARD. Future large prospective controlled trials are required to determine the implications of different acidification patterns in patients with IEM.

**eP287V** RARE LONG-TERM SEQUELAE OF USE OF CARDIAC SEPTAL OCCLUDER DEVICE FOR TRACHEO-OESOPHAGEAL FISTULA CLOSURE IN COVID TIMES

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Long-term outcomes of tracheo-oesophageal fistula(TEF) closure using atrial septal defect occluder (ASDO) are unknown.

30 year male with post-tubercular TEF underwent closure using ASDO-no-10 (Waist-10mm, oesophageal-22mm, tracheal-18mm) (Lifetech scientific, Schenzen). At 4 months, gastroscopy, bronchoscopy showed partially embedded device with obliterated fistula. At 6 months, he developed COVID pneumonia and subsequently complained of recurrence of aspiration. Gastroscopy showed a patent fistulous tract with no device in situ (Video). Sudden forceful dislocation of ASDO due to high airway pressure during a bout of cough may have led to migration. Migration of ASDO after 6 months is not previously reported in literature.

**eP288** ELDERLY VS. YOUNG PATIENTS: CLINICAL, ENDOSCOPIC AND PROGNOSTIC PARTICULARITIES IN CASE OF UPPER GASTROINTESTINAL HEMORRHAGE: PROSPECTIVE STUDY

Authors  Toubli A.1, Benhamdane A.1, Addajou T.1, Sair A.1, Rokhsi S.1, Mrabti S.1, Beraida R.1, El Koti I.1, Rouibaa F.1, Benkiran A.1, Seddik H.1

Institute 1 Militar hospital Mohamed V, gastroenterology II, Rabat, Morocco


Aims  The aim of our study is to compare the epidemiological, clinical, endoscopic, therapeutic and prognostic characteristics of UDH in young vs. elderly subjects.

Methods  This is a single-center prospective cross-sectional study about 332 patients, conducted over a one-year period between June 2020 and August 2021.

We divided our patients into 2 groups, group A corresponding to subjects aged ≥ 65 years and group B corresponding to patients < 65 years.

Results  Of the 332 endoscopies performed for UDH, 38.9% were older than 65 years. The sex ratio was 2.79. 31.8% of patients were on antithrombotic therapy, and 38.8% had comorbidities.

There was no statistically significant difference between the two groups regarding the origin of UDH, however there was a difference between the two groups regarding the use of antithrombotics (31, 8% vs10.8%, p < 0.001) the presence of comorbidities (39.1% vs 20.7%, p < 0.001) the presence of active bleeding (9.3% vs18.7%, p = 0.019) and the use of endoscopic hemostasis (8.5% vs 17.7%, p = 0.019).

In multivariate analysis and adjusting for the studied parameters of age, sex, comorbidities, presence of active bleeding and use of antithrombotic drugs; only the presence of active bleeding could predict the need for endoscopic hemostasis (OR: 29.62, CI: 13.52-64.90, p < 0.001), while the use of antithrombotic drugs and age ≥ 65 years had no influence on this risk.

Conclusions  Although older subjects had more comorbidities, more use of antithrombotics, UDH in this age group does not appear to be more severe with a lower rate of active bleeding at endoscopy implying a less frequent need for endoscopic hemostasis.
endoscopic device-related problems and patient-related adverse events.

**Aims** Evaluate the endoscopic drainage in patients with hilar cholangiocarcinoma (CCK) bismuth IV using metallic stents (MS) and plastic stents (PS) versus percutaneous approach.

**Methods** This is a retrospective study including all patients who had endoscopic retrograde cholangiopancreatography (ERCP) for Bismuth IV CCK between March 2017 and November 2021, parameters evaluated: technical success, efficacy of drainage, complication rate, stent patency and survival.

**Results** 13pts were included, the technical success was 77% (n = 10), effective in 7 patients (53.83%). Unilateral biliary drainage was performed in 11 patients (84.61%) including 8 PS (72.7%) and 3 MS (27.2%), patients who had PS, 6 of them (46.14%) required a stent change and 2 patients (15.38%) required second stent. Complications such as migration and stent obstruction occurred in 5% in case of PS and (0.3%) in case of a MS. The median duration of stent patency was 3.8 months in patients treated with PS and 6.5 months in patients treated with MS. For unilateral and bilateral stent placement, the median PS patency time was 19 weeks and 21 weeks, respectively. For unilateral MS placement, the median patency time was 36 weeks. Percutaneous drainage was performed in 30.76% with an estimated technical success of 75%. Median duration of drain was 3 weeks. The median survival with successful endoscopic biliary drainage was 6.5 months, 8.2 months in successful percutaneous drainage.

**Conclusions** The endoscopic approach in bismuth IV cholangiocarcinoma is the treatment of choice despite the technical difficulties, it improves quality of life with lower complication rates and a superior cumulative stent patency.

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**eP290** DEVICE RELATED PROBLEMS AND PATIENT-RELATED ADVERSE EVENTS WITH SPYGLASS CHOLANGIOSCOPE: A MANUFACTURER AND USER FACILITY DEVICE EXPERIENCE (MAUDE) DATABASE ANALYSIS

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**DOI** 10.1055/s-0042-1745143

**Aims** The Spyglass cholangioscope system has been available for over a decade and is used to diagnose and treat many pancreaticobiliary problems. Its safety and efficacy have been proven in many studies. However, limited data is available regarding the specific device-related problems and patient-related adverse events. We aimed at analyzing the device-related problems and patient-related adverse events with the Spyglass cholangioscope system reported to the MAUDE database in the last decade.

**Methods** The reports from March 2011 till November 2021 were collected using the search terms “Spyglass”, “SpyScope”, and “Spybite”

**Results** 1623 problems were reported in the MAUDE database in 1612 patients. The highest events were reported in the year 2018 (n = 639, 39.64%). Device related events happened in 96.84% (n = 1561), patient-related injury in 2.98% (n = 48) and mortality in 0.19% (n = 3). Device-related problems reported were material protrusion/extrusion (n = 1052; 65.26%) and optical problem/low quality (n = 285; 17.68%). (Figure 1) More than one device-related issue was reported in 8.25% (n = 133) cases. The number of problems with respect to the type of device was depicted in Table 1. These device-related issues didn’t cause any patient-related injuries in the majority (n = 1554; 95.75%). Perforation (n = 22, 1.36%), haemorrhage (n = 17, 1.05%), infection/inflammation (n = 12, 0.74%), air embolism (n = 5, 0.31%), and pancreatitis (n = 2, 0.12%) were the complications reported.

**Table 1**

<table>
<thead>
<tr>
<th>TYPE OF DEVICE</th>
<th>n (%)</th>
<th>TYPE OF DEVICE</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SpyScope DS</td>
<td>1272</td>
<td>(78.91 %)</td>
<td>Spybite</td>
</tr>
<tr>
<td>SpyScope DS II</td>
<td>253</td>
<td>(15.69 %)</td>
<td>Spyglass Retrieval Basket</td>
</tr>
<tr>
<td>Spyglass Direct Visualization System</td>
<td>35</td>
<td>(2.17 %)</td>
<td>Spyglass Discover Digital Catheter</td>
</tr>
<tr>
<td>Spyglass DS Digital Controller</td>
<td>17 (1.05 %)</td>
<td>spyglass retrieval snare and miscellaneous</td>
<td>3 (0.19 %) and 5 (0.31 %)</td>
</tr>
</tbody>
</table>

**Fig. 1**

**Conclusions** Spyglass cholangioscope system is highly effective and safe. Patient-related injuries were minimal and rarely cause mortality. Material protrusion/extrusion and optical problem/low quality were the predominant device-related problems. Continuous innovations and improvements are required to reduce device-related issues.

**eP291V** PANCREATIC PLASMACYTOMA: INCIDENTAL DIAGNOSIS DURING EUS STAGING

**Authors** Águedo B.1, González-Haba M.1, Martíns A.1, Tejerina E.2, Herreros de Tejada A.1

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**DOI** 10.1055/s-0042-1745144

A 75-year-old man underwent staging EUS for early esophageal neoplasia. A 20 mm heterogeneous mass in the pancreatic body was found, with non-diagnostic fine needle biopsy (FNBI). MRI showed a 60 mm mass, suggestive of neuroendocrine tumour or lymphoproliferative process. Repeated EUS tissue acquisition demonstrated cells CD138+ and kappa light chain. Multiple mye-
Efficacy of Neoadjuvant Therapy in Pancreatic Adenocarcinoma: A Systematic Review and Meta-Analysis

Authors: Safwat Elkashef, Wael, Ahmed Al-Tawil, Mohamed El-Nady, Amal Altonbary, Hassan Hakim, Mohamed Rekab, Mohamed Abou-Elmagd, and Mohammad Elgendy

Institute: Mansoura University, Department of Gastroenterology and Hepatology, Mansoura, Egypt

DOI: 10.1055/s-0042-1745148

Aims: To evaluate the efficacy and safety of adjuvant chemotherapy (EST) + endoscopic papillotomy, and single-balloon enteroscopy (EPLBD-s) vs isolated EST (IEST) for difficult bile duct stone clearance.

Methods: A systematic review was conducted of randomized controlled trials (RCTs) comparing EST + EPLBD-s vs IEST. Data was extracted from trials meeting predefined criteria.

Results: Sixty-two studies met the inclusion criteria. The pooled proportion of patients who had complete ductal clearance of complex bile duct stones was 89.3% (95% CI: 85.9-91.0%). Stone clearance on the first session was achieved in 71.3% of patients (95% CI: 62.1-79.3%). The pooled incidence of adverse events was 7% (95% CI: 3.7-8.5%). For patients with pancreatic stones, clinical success was reported at 75.6% (95% CI: 64.1-84.3%). Laser lithotripsy was reported to have higher clinical success (88.3% vs 95% CI: 65.4-95.6%) than electrohydraulic lithotripsy (66.4% vs 95% CI: 55.3-75.2%). Adverse events were reported at 14.5% (95% CI: 9.1-23.3%) in the pooled analysis.

Conclusions: EST + EPLBD-s is an effective adjunct tool in the management of complex pancreatic and biliary duct stones when conventional techniques fail. While RCTs are available to provide precise estimates on its role in complex biliary stones, similar trials are needed to further examine its effectiveness in pancreatic stones.

Efficacy of Neoadjuvant Therapy in Pancreatic Adenocarcinoma: A Systematic Review and Meta-Analysis

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**ep297** CHANGES OF ORAL AND DUODENAL MICROBIOTA IN PATIENTS WITH PANCREATIC CANCER ARE POSSIBLE DIAGNOSTIC AND PROGNOSTIC BIOMARKERS

**Authors** Archibugi L.1, Ponz De Leon Pisani R.1, Sattin E.2, Bertoldi L.2, Rossi G.1, Mariani A.1, Valle G.2, Arcidiacono P.G.1, Capurso G.1

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**DOI** 10.1055/s-0042-1745150

**Aims** Microbiome is associated with pancreatic cancer (PDAC) risk/survival. It was hypothesized that bacteria migrate from the mouth through duodenum into the pancreas with a protumorigenic effect. Changes of duodenal microbiome of head PDAC were reported, but may be due to impaired exocrine function and bile flow. Also, such studies were underpowered and oral/duodenal microbiome were not compared. We aimed to assess oral/duodenal microbiome in a PDAC cohort undergoing EUS, with lesions not obstructing (PDAC-NO) bile ducts and matched healthy controls (HC), and investigate signatures predicting survival.

**Methods** A sample-size calculation was performed enrolling 10 patients. PDAC and sex/age-matched HC were enrolled during EUS, performing saliva collection and duodenal brushing. Bacterial 16S-RNA gene was extracted, amplified and underwent NGS. Results were analyzed through QIIME2 with comparison of alpha and beta-diversity, and differential abundances. Survival analyses were performed.

**Results** 96 samples were collected from 24 PDAC-NO/24 HC. Technical success was 97.9%. There was a significantly reduced alpha-diversity (OTUs and Faith’s Diversity) in PDAC-NO brushing compared to HC (p = 0.01), as also to PDAC-NO saliva (p = 0.01). There was a significant Beta-diversity difference between brushing and saliva of PDAC-NO (q-value = 0.025). The most abundant bacterium in PDAC-NO duodenum was P. Aggregatibacter. A lower alpha-diversity as also the presence of specific species were associated to a reduced/increased survival.

**Conclusions** The use of brushing for duodenal microbiome evaluation is feasible and fast. Even in absence of ducts obstruction, PDAC patients have lower alpha-diversity in the duodenum compared to HC, as also in PDAC, the duodenum has lower alpha-diversity than in the saliva. A specific microbiome signature and a lower alpha-diversity predict survival in PDAC.

**ep298** RNA-SEQUENCING OF PANCREATIC CANCER FROM EUS-ACQUIRED TISSUE IS USEFUL TO DEFINE MOLECULAR SUBTYPES AND PROGNOSIS

**Authors** Archibugi L.1, Ruta V.2, Panzeri V.2, Zaccari P.1, Tacelli M.1, Petrone M.C.1, Falconi M.1, Reni M.1, Sette C.2, Arcidiacono P.G.1, Capurso G.1

**Institutes** 1 IRCCS San Raffaele Institute, Milan, Italy; 2 Catholic University, Rome, Italy

**DOI** 10.1055/s-0042-1745151

**Aims** Pancreatic ductal adenocarcinoma (PDAC) is the 2nd leading cause of cancer-related mortality, with transcriptome subtypes related to different prognosis and chemotherapy response. Nevertheless, RNA extraction from pancreatic tissue is cumbersome and has been performed mainly on surgical samples, representative of < 20 % of cases. On the contrary, the majority of PDAC patients undergo Endoscopic Ultrasound (EUS)-guided tissue acquisition (EUS-TA), and we recently published a method to achieve a good quality and quantity RNA, but RNA sequencing on such samples has been rarely performed.

Our aim was to evaluate the ability to perform RNA sequencing and molecular subtype identification on EUS-TA of PDAC samples and correlate this to prognosis and chemotherapy response.

**Methods** Fifteen patients with non-metastatic PDAC underwent EUS-TA with standard FNA and resulted having adequate quantity of RNA (70 ng) and RNA Integrity Index (RIN) ≥ 3 for RNA sequencing with Illumina Nova Seq. Unsupervised clustering according to selected markers known to be associated to molecular subtypes and evaluated through in silico analysis of TCGA, as also the PURIST score were applied and correlated to overall survival (OS) and chemotherapy used. Further bioinformatics analysis and correlation with clinical meta-data and overall survival are ongoing.

**Results** Mean RIN of the 15 samples was 4.7 (range 3–6). OS 11 months. RNA sequencing was successful in 100 % patients. Unsupervised clustering employing relevant genes was applied and correlated to OS; PURIST score identified 1 patient as basal-like, who had an OS of 3 months.

**Conclusions** RNA samples obtainable from EUS-TA PDAC cases can successfully undergo RNA sequencing to identify molecular subtypes that seem to correlate with prognosis and chemotherapy response.

**ep299** LONG-TERM OUTCOMES OF ENDOSCOPIC PAPILLARY BALLOON DILATION FOR 8-12MM BILE DUCT STONES: A PROSPECTIVE STUDY

**Authors** Arna D.1, Velgekri M.1, Nicolau P.1, Psistakis A.1, Mpitouli A.1, Fragaki M.1, Papastergiou V.2, Vardas E.1, Papaghi G.1

**Institutes** 1 Venizeleion Hospital, Department of Gastroenterology, Heraklion, Greece; 2 General Hospital of Athens “Evangelismos-Ophthalmiaireon Athinon-Polyklinit”, Department of Gastroenterology, Athens, Greece

**DOI** 10.1055/s-0042-1745152

**Aims** Stone recurrence is a significant long-term complication after endoscopic papillary balloon dilation (EPBD) with endoscopic sphincterotomy (EST) for large or difficult common bile duct (CBD) stones. However, data on long-term outcomes after EPBD + EST for CBD stones up to 12 mm remain limited. We prospectively evaluated long-term outcomes of ELBPD + EST for CBD stones up to 8-12 mm.

**Methods** Consecutive patients with CBD stones up to 8-12 mm successfully treated by EPBD + EST from September 2018 to August 2020 were prospectively followed for at least 12 months. CBD stone recurrence was defined as recurrent stones confirmed by ERCP during the follow-up period. The maximum diameter of the balloon used was 15 mm.

**Results** Overall, 72 patients (mean age: 67 years, 52.8 % males) were included, of whom 22 (30.5 %) had multiple (≥ 3) CBD stones, 23 (31.9 %) had a history of cholecystectomy, 13 (18.1 %) had a periampullary diverticulum and 22 (30.3 %) had a previous EST. The mean CBD diameter was 11.6 ± 1 mm, whereas a tapered duct was noted in 7 (9.7 %). Post-procedural bleeding occurred in one case, treated successfully with a fully covered metal stent. Mild cholangitis occurred in two cases. No cases with perforation or PEP were observed. During a mean follow-up of 22.4 ± 6.2 months (range 13-36), CBD stones recurred in 2/72 (2.7%).

**Conclusions** EPBD + EST in patients with CBD stones up to 8-12 mm appears to be associated with a very low (< 3 %) rate of long-term stone recurrence. The efficacy of EPBD for 8-12 mm stones warrants further exploration in randomized trials.

**ep300** A MISDIAGNOSED ENTITY OF SOLID PSEUDO-PAPILLARY TUMOR OF THE PANCREAS: A SMALL SERIES OF 4 CASES

**Authors** Belkhayat C.1, Amri F.1, El Mqqadem O.1, Tammouch Z.1, Oustani M.1, Nasiri M.1, Kaddouri M.A.1, Zaiour A.1, Kharrase G.1, Ismaill Z.1, Khannoussi W.1
The yield of biliary brush cytology in biliary strictures

Authors: Belkhayat C.1, Amri F.1, Kaddouri M.A.1, El Mqaddem O.1, Tammouch Z.1, Oustani M.1, Zazour A.1, Kharrase G.1, Ismaili Z.1, Khannoussi W.1

Institute 1 Mohammed 6 University Hospital Oujda, Hepato Gastro Enteroology Unit, Oujda, Morocco

Aims: The aim of this study is to assess the yield of biliary brush cytology into determining malignant causes of biliary stricture.

Methods: We performed a prospective study from January 2016 to December 2021 including patients with biliary stricture who had biliary brushing. Exclusion criteria were patients with biliary stricture for whom brushing sampling was not possible. Final diagnosis was confirmed by surgery, percutaneous biopsy or EUS-FNA, radiological invasion or metastasis to identify false positive or false negative results. Analysis was made using SPSS.

Results: 1,100 patients underwent ERCP during this 5-year period. Out of these, 82 patients used biliary brushing for diagnosis. The mean age of our patients was 65 years (26–95 years, 56.1 % females). The main symptom was obstructive jaundice in 91.7 % of patients (n = 77). Of the 82 patients, 40 (47.6 %) had distal common bile duct stricture, 8 (9.5 %) had middle stricture and 19 (22.6 %) had a proximal /complex hilar stricture. 75 % of strictures were due to malignant causes. Cholangiocarcinoma, pancreatic cancer and gallbladder carcinoma were the most common causes of malignant biliary stricture at 27.4%, 26.2 % and 16.7 %. The sensitivity, specificity, positive predictive value and negative predictive value were 33.3, 100, 100 and 25.9 %, respectively. For cholangiocarcinomas, the sensitivity was the highest at 56.5 %. For pancreatic cancer and gallbladder carcinoma, the sensitivity was very low at 14.2 % and 15.3 %.

Conclusions: Despite its low sensitivity, brush cytology is considered to be a safe way to get tissue samples from patients suspected with biliary neoplasm.

eP302 ENDOSCOPIC TREATMENT OF COMPLICATIONS OF HYDATID CYSTS OF LIVER RUPTURED IN THE BILE DUCTS

Authors: Benhamdane A.1, Sair A.1, Touibi A.1, Addajou T.1, Rokhsì S.1, Mrabti S.1, Beraida R.1, El Koti 1,1, Rouiba F.1, Benkiran A.1, Seddik H.1

Institute 1 Military Hospital Mohamed V, Gastroenterology II, Rabat, Morocco

Aims: The objective of our study is to evaluate the contribution of endoscopic ERCP in the diagnostic and particularly therapeutic management of ruptured liver hydatid cyst in the bile ducts.

Methods: Retrospective descriptive and analytical study, from January 2002 to August 2021, which included 50 patients with a hydatid cyst fistulized in the bile ducts. ERCP and endoscopic sphincterotomy were performed in all patients. Overall success was defined by definitive vacuity of the main bile duct.

Results: Among the ERCPs performed in our department during the study period, 4.6 % (n = 50) were for a hepatic hydatid cyst communicating with the bile ducts. The mean age was 46.1 ± 14.8 years with a male predominance of 66 %. ERCP was performed in 52.2 % of cases preoperatively, and in 47.8 % postoperatively. ERCP was indicated for acute angiocholitis in 44.9 % and persistent external biliary fistula in 34 %. The median bile duct diameter was 10.7-14 mm and the median cyst diameter was 3.5 [27-47]. Sphincterotomy was performed in 96 % of patients allowing extraction of hydatid material by balloon or Dormia in 87.8 %. Nevertheless, 24 % required nasobiliary drainage and 8 % benefited from biliary prosthesis placement.

Conclusions: Our study confirms that endoscopic treatment of ruptured hydatid cyst in the bile ducts is an effective therapeutic alternative, with a low rate of immediate complications and a good long-term evolution.

eP303 PREDICTORS OF FAILURE OF ENDOSCOPIC RETROGRADE CHOLANGIOGRAPHY IN CLEARING BILE DUCT STONE ON THE INITIAL PROCEDURE

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Aims: Evaluate the predictive factors of failure rate of clearing the biliary system from stones at the initial ERCP.

Methods: This is a retrospective descriptive and analytical study from September 2002 to September 2021. All patients with bile duct stones, who underwent ERCP with endoscopic sphincterotomy and stone extraction by standard techniques (extraction balloon or Dormia basket) were included in this study.

Results: A total of 1080 ERCPs were performed to extract bile duct stones. The mean age was 58.9 ± 14.4 years and 59.5 % were females. The mean diameter of the Bile duct was 13.4 ± 4.31 mm. The presence of a biliary stricture in 6.3 %. The primary vacuum rate was 75.1 %. Supplementary techniques were used in 22.7 % of cases.

On univariate analysis, the predictive factors for failure after use of standard techniques were: age (OR: 0.9; CI 95 %: 0.8-0.9; p < 0.001); gender (OR: 0.7; CI 95 %: 0.5-0.9; p = 0.036); previous cholecystectomy (OR: 1.3; CI 95 %: 1.1-1.4; p = 0.035); presence of jaundice (OR: 0.4; CI 95 %: 1-0.4; p < 0.001); dilatation of the CBD > 15 mm (OR: 0.8; CI 95 %: 0.2-0.1; p < 0.001), biliary stric-
tute (OR:0.3;CI95 %:−1.7−0.7;p < 0.001) and the presence of impacted and/or large stone (OR:0.1;CI95 %:−2.1−1;p < 0.001).

On multivariate analysis, only the presence of angiocholitis (OR:1.9;CI95 %:0.2−1.7;p = 0.001), impacted and/or large stone (OR:2.5;CI95 %:0.5−1.3;p < 0.001), dilatation of the CBD > 15 mm (OR:0.88;CI95 %:0.17−0.07;p < 0.001), and biliary stricture (OR:2.9;CI95 %:0.4−1.7;p = 0.002) were significantly associated with failure of the primary CBD vascular rate.
The overall failure rate after using the supplementary techniques was 92.4 %.

Conclusions In our study, predictive factors for failure of the primary CBD vascular rate were the presence of angiocholitis, impacted and/or large stone, dilatation of the CBD (>15 mm) and biliary stricture.

eP304 ADVANCED DIAGNOSTIC OF BILE DUCT STRICTURES OF UNCERTAIN ETIOLOGY WITH COMBINED EUS-ERCPC

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Aims Often, ERCP with brush cytology (ERCP-BC) is imperfect for the diagnosis of biliary strictures of unknown etiology. Complementary endoscopic ultrasound (EUS) with fine-needle aspiration (FNA) might be beneficial in such scenarios. Our aim was to investigate the diagnostic accuracy of ERCP-BC and EUS-FNA in unclear biliary strictures.

Methods In a prospective, tertiary-center setting, patients were examined with both ERCP and EUS during endoscopic work-up (EUS + ERCP). The results were compared with surgery, clinical follow-up, and imaging. The main outcome measurements were: Diagnostic sensitivity, specificity, accuracy, and adverse event rate of ERCP-BC, EUS-FNA, and the combination of both sampling methods (ERCP-BC + EUS-FNA).

Results During 2012–2020, 73 patients (m/f: 50/23; median age: 54) were examined with EUS + ERCP (ERCP-BC + EUS-FNA n = 22, ERCP-BC only n = 41, EUS-FNA only n = 5, ERCP + EUS without sampling n = 5). Final diagnoses were benign in 43 cases (CCA n = 17, pancreatic cancer n = 11, other malignancy n = 2). The adverse event rate was in ERCP-BC only (n = 41) 2/41 (5 %: pancreatitis n = 2), while in ERCP-BC + EUS-FNA (n = 22) was 1/22 (5 %: cholangitis n = 1), p = ns.

In ERCP-BC only (n = 41), the sensitivity, specificity and accuracy of ERCP-BC was 53 %, 92 % and 76 % respectively. In combinatory procedures (n = 22), the diagnostic sensitivity, specificity and accuracy of ERCP-BC + EUS-FNA and ERCP-BC was (86 vs 44 %) p = 0.25, (86 vs 92 %) p = 1.0, and (86 vs 73 %) p = 0.25, respectively.

Conclusions In the diagnosis of unclear biliary strictures of unknown etiology, the combination of EUS-FNA and ERCP-BC was patient-safe and demonstrated high sensitivity, numerically superior to ERCP with brush cytology only.

ep305 THE ROLE OF ENDOSCOPIC ULTRASOUND-GUIDED FINE-NEEDLE ASPIRATION (EUS-FNA) IN METASTATIC TUMORS IN THE PANCREAS

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Aims Metastases to the pancreas (MP) are rare, frequently presenting with no specific clinical signs or symptoms and discovered incidentally, therefore difficult to characterize and differentiate from a primitive pancreatic tumor. EUS-FNA is well recognized as a useful diagnostic tool in this setting. However, data regarding the diagnostic significance of EUS-FNA in patients with MP has not been well established and few studies have explored this aspect. Our aim is to investigate first the role of EUS-FNA and secondly the impact of some EUS findings in supporting the suspected diagnosis of MP.

Methods The study population consisted of 640 consecutive patients referred to our tertiary center with instrumental finding of pancreatic masses requiring EUS-FNA.

Results The overall prevalence of MP was 3.75 %. Carcinoma was the prevalent histotype (87.5 %), followed by melanoma (8.3 %) and condrosarcoma (4.2 %). The most common primary tumor sites were the kidney (41.7 %) and the colon/rectum (20.9 %), followed by the lung (8.3 %), the skin (8.3 %) and the liver (8.3 %). MP most often showed hypoechoic ecogenericity (95.8 %), without septa/anechoic areas (70.8 %), and appeared avascular (58.3 %). The morphology was mainly circular (95.8 %) with well-defined margins (75 %). The infiltration of the vascular axis, the dilatation of the main pancreatic duct or the involvement of common bile duct were rarely associated with MP (25 %; 33.4 % and 12.5 %, respectively).

Conclusions EUS-FNA has been confirmed a useful diagnostic tool for MP. Although larger multicenter studies are needed to confirm our data, our findings likely suggest the potential predictive significance of EUS features for the metastatic origin, too.

eP306 RISK OF FAILURE AND COMPLICATIONS OF ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY; COMPARISON OF ELDERLY AND YOUNG PAKISTANI PATIENTS

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Aims Endoscopic Retrograde Cholangiopancreatography (ERCP) is an effective diagnostic and therapeutic procedure, widely performed in patients, irrespective of age. The objective of the study was to compare the risk of failure and procedural complications in young and elderly patients.

Methods This cohort study was conducted at Holy Family Hospital, where all 362 patients who underwent the therapeutic or diagnostic ERCP performed, in the year 2014 were included and categorized as 276 young (aged 20-59 years) and 86 elderly (60 years and above) patients. The procedural and post-procedural records of both study groups were followed up prospectively to compare the risk of failure of procedure and the complications during and after procedure.

Results Successful therapeutic intended procedures were observed in 95.08 % of elderly and 97.32 % of young patients. (RR of failure 0.64, Cl 0.19-2.85, p value 0.47). Similarly Successful diagnostic intended procedures were performed in 88 % of elderly and 91.1 % of young patients. (RR of failure 1.35, Cl 0.51-2.40).

Conclusions The success rates, risk of failure and complications of the procedure in elderly was same as that of young, providing evidence that it is an equally safe procedure for elderly too.
eP307V CANNULATION BY DIRECT VISION OF THE BILE DUCT WITH A CHOLANGIOSCOPE IN A PATIENT WHO RECEIVED A LIVER TRANSPLANT WITH ANASTOMOTIC STENOSIS AND BILE LEAKAGE

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We present the case of a 57-year-old man who received a liver transplantation. ERCP with sphincterotomy was performed 5 months later, observing a late short stenosis immediately distal to the cystic duct insertion in the common bile duct and contrast extravasation at this level after performing pressure cholangiography. Due to the impossibility of progression of the 0.035” and 0.025” guidewires, a cholangioscope was introduced to cannulate by direct vision. After several attempts the guidewire of 0.025” is progressed, facilitating the placement of a covered metal biliary stent of 8mm x 8cm. The patient could be discharged 48 hours later.

Conclusions EUS is a very good method for diagnosing choledocholithiasis in ABP patients without obvious cholestasis on imaging and helps to decide whether ERCP is needed.

eP312 NEEDLE-KNIFE SPHINCTEROTOMY AS A PRECUT PROCEDURE IN PATIENTS WITH NON-DILATED BILIARY TRACT: TECHNICAL SUCCESS RATE AND COMPLICATION RATE

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Aims Needle-knife sphincterotomy as a precut procedure (PS) in patients with non-dilated bile duct carries an increased risk of complications. Working hypothesis: A targeted PS with identification of the papillary submucosal common bile duct does not imply a greater risk of complications.

Methods Retrospective analysis of prospectively collected data. We included patients that underwent PS between 2014 and 2021; all the PS were performed by the same endoscopist. The PS technique consisted of: superficial mucosal incision in cranial direction, submucosal dissection, identification of the submucosal common bile duct and deepening the cut at this level. Collected data included: demographic data, technical success rate, complication rate, cannulation time, ERCP duration, and diameter of the bile duct. We defined cannulation time as the time elapsing from the beginning of the cannulation attempts until bile duct access was achieved. We defined bile duct dilation as a bile duct caliber ≥ 7 mm. Patients were divided into two groups: those with a non-dilated bile duct (Group I) and those with a dilated bile duct (Group II). The study was approved by the institutional review board.

Results We included 98 patients with a mean age of 74.51 ± 14 years (range: 26-95); 56% were male. Group I comprised 64 patients and Group II 34 patients. The global technical success of the PS was 84%.

Conclusions Performing PS by identifying the submucosal common bile duct does not imply a greater risk of complications in patients with a non-dilated bile duct.
eP313V  MULTIPLE GATEWAY APPROACH IN EUS-GUIDED DRAINAGE OF INFECTED WALLTED-OFF PANCREATIC NECROSIS

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55-year-old male with infected necrotizing alcoholic acute pancreatitis (14x7cm retroperitoneal abscess), managed with antibiotics, lumen-apposing metal stent (LAMS) and necrosectomy. The LAMS was replaced by a plastic stent due to proximity to the splenic artery. Because of ongoing signs of infection, he underwent an EUS in which a 2nd gateway was created with LAMS. The cavity was irrigated with H2O2(1:20) and submitted to necrosectomy. Two more double-pigtail stents (7Frx5cm) and a nasocystic probe were placed through the 1st gateway. Two weeks later, the CT showed reduction in the collection size and later the LAMS was removed. Patient is currently asymptomatic.

eP314  SINGLE-OPERATOR VIDEO PANCREATOSCOPY (SOVP) FOR THE MANAGEMENT OF SYMPTOMATIC PANCREATIC DUCT STONES IN SELECTED CHRONIC PANCREATITIS PATIENTS. A PROSPECTIVE MULTICENTRE COHORT TRIAL

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Aims  SOVP-guided treatment of pancreaticolithiasis offers an alternative to extracorporeal shock wave lithotripsy (ESWL) in patients with symptomatic chronic obstructive pancreatitis (SCOP). We present early results of a prospective evaluation of the efficacy, safety and clinical outcome of SOVP-guided lithotripsy.

Methods  Between 2019-2021 patients with SCOP were enrolled in a prospective multicenter cohort study. The sample size calculation was based on the hypothesis of SOVP higher technical success over ESWL (Performance Goal of 74%). Primary endpoint was technical success defined as complete PD clearance within three SOVP sessions. Secondary endpoints included: clinical success, assessed by Izbicki pain score (IPS) improvement from baseline with complete/partial pain relief evaluation over time; incidence of adverse events (AE) reported in the follow-up; radiological PD diameter assessment before and 6 months after final SOVP.

Results  We enrolled 40 patients with 1.7 (+1.3) pancreatic stones, 8.4mm (+2.9) upstream PD diameter, and 55.3 (+46.2) baseline IPS. SOVP achieved a complete stone clearance rate of 90.0% (36/40; p = 0.011) with mean number of 1.33 (STD0.62) SOVP sessions. Pancreatic stents were placed in 88.7% (47/53) of the procedures for post-ERCP pancreatitis prophylaxis or treatment of associated strictures. Mild AE were registered in 7.5% (3/40) of the cases. At 6 months follow-up, the rate of residual stones was 0.0% (0/33), PD diameter decreased to 4.8mm ± 2.0 and IPS was 9.0 ± 16.7 with complete pain relief/partial pain relief in the 66.7% (22/33)/21.2% (7/33).

| Table 1 |
|----------------|----------------|
|                | Izbicki Pain Score | Change in Izbicki Pain Score From Baseline |
| Baseline       | 55.3 ± 46.2(40)(0.0,303.8) | NA |
| Final 30 Day Visit | 23.6 ± 23.8(23)(0.0,63.8) | -30.9 ± 24.5(23) |
| Final 3 Month Visit | 17.3 ± 22.9(34)(0.0,76.3) | -42.9 ± 47.3(34) |
| 6 Month Visit  | 9.0 ± 16.7(33)(0.0,76.3) | -48.3 ± 48.5(33) |

Conclusions  SOVP-guided treatment of symptomatic PD stones is safe and achieves ductal clearance in 90% selected SCOP patients. Median-term results show pain relief in more than 2/3 cases. SOVP-guided lithotripsy is an effective alternative for ESWL for PD stones.

eP315  ENDOSCOPIC ULTRASOUND-GUIDED RADIOFREQUENCY ABLATION (EUS-RFA) OF GASTRO-INTESTINAL TUMORS: ANALYSIS OF INDICATIONS AND LONG-TERM RESULTS

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Aims  Surgery is the mainstay therapy for some types of pancreatic tumors. In recent years, EUS-RFA has been described as an effective therapeutic option in poor surgical candidates. There is scant evidence in other types of digestive

**Methods** 35 consecutive tumors [mean size 19 mm (range 6-33)] in 33 patients [13 males; 65 (±12) years] from one center who underwent EUS-RFA over 7 years (2015-2021) were included. Technical success = ability to target the RFA needle; Response = decrease in diameter ≥ 50 %; Complete response = disappearance or necrosis. EUS-RFA was performed with a 18 or 19G RFA needle (Starmed, Taewoong, South Korea) applying 50W in pulse of 10 seconds. The operative needle has an associated internal cooling system.

**Results** Indications: pancreatic mucinous neoplasia 21/35 (60 %), P-NETs 7/35 (20 %), 2 GIST, 2 pancreatic adenocarcinoma, 1 cholangiocarcinoma and 1 hepatocellular carcinoma. Most frequent location: head (40 %) and body of the pancreas (40 %). A total of 47 RF sessions were performed [1.42 session/tumor (range 1-4)]. Technical success was achieved in 94.3 % and response in 72.4 % (83 % in pancreatic mucinous neoplasia). Overall two adverse events occurred. There were no recurrences during follow-up (median 28 months [IQR 16–35]).

**Conclusions** EUS-RFA appears to be safe and effective in certain types of pancreatic tumors non-candidate for surgery. In addition, it could be an alternative in other types of gastrointestinal tumors accessible by EUS. Prospective studies are needed to confirm these results.

eP316 CHARACTERIZATION OF PRIMARY PANCREATIC LYMPHOMA BY EUS FINE NEEDLE ASPIRATION/Biopsy: A RETROSPECTIVE STUDY

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**Aims** Primary pancreatic lymphoma is a rare group of malignancies consisting of less than 0.5% of pancreatic cancers and 0.1% of malignant lymphomas. We describe our retrospective experience of characterization of such a rare malignancy by endoscopic ultrasound FNA/B.

**Methods** Between December 2008 and September 2021, 375 patients with pancreatic mass underwent EUS FNA/B. Samples were analyzed by pathologists experienced in pancreatic neoplasia. We selected patients with final diagnosis of pancreatic lymphoma and then we retrospectively analyzed demographic information, clinical reason of referral, pancreatic site, size, ultrasound appearance, cytological and histological data.

**Results** 6 of 375 (1.6%) patients were diagnosed with primary pancreatic lymphoma. After preliminary CT scan examination, 5 of 6 patients were referred to EUS FNA/B with first suspicion of adenocarcinoma. The median age was 65.6 years with slightly male predominance (66.6%). The most frequent site was pancreatic head (83%) with median size of 45.6 mm. Lymphoma was described as hypoechoic solid mass in 90% of cases. Histology and immunochemistry confirmed respectively in 66% and 33% of patients low-grade and high-grade B cell Non-Hodgkin’s lymphoma. Only two patients showed peri-pancreatic lymph-nodal involvement.

**Conclusions** Primary pancreatic lymphoma is a challenging diagnosis for poor specificity of symptoms and imaging appearance with risk of misdiagnosis. EUS FNA/B is mandatory for histological confirmation of diagnosis and to ensure the best timely treatment, based on the combination of radio and chemotherapy rather than surgery.

eP317 EVALUATION OF PREDICTIVE FACTORS OF MALIGNANCY IN INTRADUCTAL PAPILLARY MUCINOUS NEOPLASM OF THE PANCREAS AND COMPARISON TO INTERNATIONAL GUIDELINES

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**Aims** This retrospective monocentric study aimed to assess predictive value of risk factors for intraductal papillary mucinous neoplasm (IPMN) malignancy according to available international guidelines (American/European guidelines and international consensus) and to assess yield of imaging at Nancy University Hospital.

**Methods** All consecutive patients with an operated IPMN between January 2013 and April 2021 were included.

**Results** Among 102 patients, 68 % (69/102) had malignant lesions and 32 % (33/102) had benign lesions. Predictive values for malignancy of the following risk factors were obstructive jaundice (Se = 19 %, Sp = 100 %), elevation of blood CA19.9 levels (Se = 55 %, Sp = 100 %), nodule ≥ 5mm (Se = 64 %, Sp = 87 %), main pancreatic duct (MPD) ≥ 10mm (Se = 38 %, Sp = 77 %), and suspicious cytology (Se = 59 % and Sp = 100 %). According to available guidelines, international consensus had best yield with high sensitivity (86 %) and specificity (64%). Except thickened/enhancing cyst walls (p < 0.001), all risk criteria were present in the same proportions in computerized tomography (CT), magnetic resonance imaging (MRI) and endoscopy ultrasound (EUS). Respectively in CT, MRI and EUS, thickened/enhancing cyst walls had a sensitivity of 21 %, 39 %, and 62 % with a specificity of 76 %, 60 %, 30 %.

**Fig. 1**

**Conclusions** Our cohort demonstrates that useful predictive factors of malignancy are obstructive jaundice, a nodule ≥ 5mm, and parenchymal tissue mass. The international consensus of 2017 seems to be the best with high sensitivity and specificity, and the European guidelines favor surgery, resulting in low specificity.

eP318 ENDOSCOPIC ULTRASOUND-GUIDED THROUGH-THE-NEEDLE MICROFORCEP BIOPSY IMPROVES THE CATEGORIZATION OF THE TYPE OF PANCREATIC CYSTIC LESIONS

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**Aims** To assess comparative diagnostic yield between CT, imaging, endoscopy, endoscopic ultrasound (EUS) and EUS-guided fine needle aspiration (EUS-FNA) to categorize IPMN.

**Methods** Evaluation of 36 consecutive patients with IPMN, all of whom underwent EUS-FNA, between December 2017 and November 2019.

**Results** Among the 36 patients, 33 underwent EUS-FNA with 27 obtaining a complete characterization. Of these, four strict and three strict septated IPMN were categorized as such due to the absence of a nodule ≥ 10mm. A nodule ≥ 10 mm was found in 11 patients, of whom three were categorized as having a solid IPMN. The remaining nodule ≥ 10 mm were categorized as having a non-solid IPMN. Additionally, one of the strict septated IPMNs was misclassified as an adenocarcinoma due to the lack of classification of the glandular component.

**Conclusions** EUS-FNA improves the characterization of the type of IPMN by improving the sensitivity and specificity of the classification.
Aims Endoscopic ultrasound-guided through-the-needle biopsy (EUS-TTNB) was introduced and has been performed for the diagnosis of pancreatic cystic lesions (PCLs). However, there is limited data regarding its efficacy and safety. We aimed to evaluate the feasibility, efficacy, and safety of EUS-TTNB in categorizing the types of PCLs, and to analyze factors associated with diagnostic failure.

Methods We retrospectively reviewed the EUS database to identify patients with PCL who underwent EUS-TTNB between January 2019 and November 2021. Technical success, diagnostic yield, and adverse events were analyzed. The discrepancies in the diagnosis between EUS-TTNB and the presumptive diagnosis made by conventional diagnostic modalities (i.e., EUS-morphology, cross-sectional imaging, and cyst fluid analysis) were also evaluated.

Results A total of 79 patients were analyzed. EUS-TTNB was successfully performed in all patients (technical success = 100%). Histologic diagnosis of PCL was made in 64 patients (diagnostic yield = 82%). Comparing EUS-TTNB with presumptive diagnosis, EUS-TTNB changed the diagnosis in 15 patients in terms of the categorization of the types of PCLs. There was significant difference in diagnostic yield between groups according to number of biopsies per session (≥ 4 biopsies, 93% vs. < 4 biopsies, 67%; P = 0.045). Procedure-related adverse events occurred in 6 (8%) patients.

Conclusions EUS-TTNB showed high technical feasibility, diagnostic yield, and acceptable safety profile. EUS-TTNB as an adjunct to other modalities may improve the categorization of the types of PCLs. Studies with standardized procedure protocols and microforceps with improved designs are needed to reduce the diagnostic failure for the types of PCLs.

eP320 SHEAR-WAVE ELASTOGRAPHY VERSUS STRAIN ELASTOGRAPHY WITH HISTOGRAM ANALYSIS IN SOLID PANCREATIC LESIONS: A PILOT STUDY

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Aims Strain elastography endoscopic ultrasound (SE-EUS) has been proved as a valuable supplement to endoscopic ultrasound (EUS) in assessing solid pancreatic lesions, with sensitivity of 98% and specificity of 63%. However, the value of newly available shear wave EUS elastography (SWM-EUS) has been disappointing in one retrospective study. Aim: to assess the diagnostic value of SE-EUS and EUS-SWM in solid pancreatic lesions.

Methods Our prospective study was started in August 2021 in one tertiary medical center and we recruited patients with solid pancreatic masses ≥ 2 cm in diameter at CT scan for EUS assessment first with SE-EUS and strain histogram (SH) (3 measurements), followed by SWM-EUS (3 measurements with VsN > 20). Patients with inconclusive pathology results were excluded. The final diagnosis was based on surgery or EUS tissue acquisition results.

Results Thirty-six patients with solid pancreatic lesions were evaluated. The final diagnosis was 20 pancreatic adenocarcinoma, 4 neuroendocrine pancreatic tumors (NETs), 6 chronic pancreatitis and 6 other types of lesions. The mean value of SH and SW for pancreatic adenocarcinoma were 20.24 and 23.41kPa, for chronic pancreatitis were 18.13 and 9.98kPa, for NETs were 38.83 and 20.59kPa, respectively, but the difference between the two elastography methods (T-test, P = 0.06) was not statistically significant.

Conclusions In this prospective study we found no significant difference between SE-EUS and EUS-SWM. Further research is needed on this topic in order to face the challenges in standardize the EUS-SWM procedure in pancreatic lesions, mainly related to the deep location of the lesions and respiratory movements.

eP331 ENTEROSCOPY-ASSISTED ERCP FOR TREATMENT OF PANCREATIC PSEUDOCYST AND STRICURE: A CASE REPORT

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Aims Endoscopic treatment of pancreatic pseudocyst in patients with altered anatomy is challenging. The aim of this study is to prove the efficacy and safety of enteroscopy-assisted ERCP for the treatment of pancreatic pseudocyst and stricture in a patient with extrapancreatic cholangiocarcinoma after pylorus-preserving pancreaticoduodenectomy.

Methods We present a 76-year-old female with symptoms of abdominal pain and dyspepsia. She had undergone pylorus-preserving pancreaticoduodenectomy 6 months ago and had been receiving adjuvant chemotherapy. However, her recent chemotherapy had been stopped due to her abdominal symptoms. Laboratory findings showed elevated serum amylase and lipase levels. Abdominal CT showed stable disease in RECIST criteria of the cholangiocarcinoma, but about 3 cm-sized pancreatic pseudocyst and pancreatic duct dilatation in the remnant pancreas was newly discovered.

Results We decided to perform endoscopic drainage of the pancreatic pseudocyst. Single-balloon enteroscopy-assisted ERCP showed a thin membrane with a suspicious underlying cyst at the pancreaticojejunostomy anastomosis site. Endoscopic ultrasonography using a mini probe showed about a 3 cm-sized anechoic lesion at the pancreaticojejunostomy site, indicating the thin membrane was obstructing pancreatic drainage. After puncturing the thin membrane with a needle knife, fluid gushed out from the pinhole. Pancreaticogram confirmed the pseudocyst and a plastic stent was deployed. After the procedure, her abdominal symptoms improved and she was discharged home safely. Regarding follow-up, abdominal CT after 3 weeks showed complete resolution of the pseudocyst. The patient is now receiving chemotherapy.
Institutes

In the wire, restoring the CBD. Finally, a FC-SEMS was placed endoscopically until reaching the common bile duct (CBD) transection, closed by metal clips.

HEPATICOJEJUNOSTOMY

OBSTRUCTIVE COMMON BILE DUCT STONES AFTER

A rendez-vous procedure by percutaneous and endoscopic approach was performed. The sphincterotome with the stiffer tip of the guidewire was advanced percutaneously through the anterior duct, over the CBD transaction until grasping the wire, restoring the CBD. Finally, a FC-SEMS was placed endoscopically over the guidewire. Cholangiography showed no leak of medium contrast.

eP323V ENDOSCOPIC RADIOLOGIC RENDEZVOUS CHOLEDOCHAL RECONSTRUCTION FOR THE TREATMENT OF POST-SURGICAL COMMON BILE DUCT TRANSECTION

Authors

Methods

Results

Conclusions

This is the first survey assessing the state of the art on clinical and therapeutic management of pancreaticobiliary diseases in Italy. There is currently wide inhomogeneity nationwide, which demonstrates a pressing need to define performance indicators towards a standardization of healthcare, in the setting of a multidisciplinary teamwork.

eP323V PERCUTANEOUS CHOLANGIOSCOPY-GUIDED LITHOTRIPSY IN A PATIENT WITH OBSTRUCTIVE COMMON BILE DUCT STONES AFTER HEPATICOJEJUNOSTOMY

Authors

Institutes

Aims

Evaluating the wire, restoring the CBD. Finally, a FC-SEMS was placed endoscopically until reaching the common bile duct transection, closed by metal clips.

eP324 ENDOSCOPIC ULTRASOUND (EUS) GUIDED RADIOFREQUENCY ABLATION (RFA) FOR LIVER METASTASES: PRELIMINARY EXPERIENCE IN 14 CONSECUTIVE PATIENTS

Authors

Institutes

Aims

Methods

Results

Conclusions

This is the first survey assessing the state of the art on clinical and therapeutic management of pancreaticobiliary diseases nationwide, with the purpose to identify the key points needing to be strengthened, focusing on clinical outcome optimization.

Methods

38 questions were submitted online, through scientific communities network, to all Italian centers about outpatient assessment, endoscopic and surgical procedures, multidisciplinary board. The answers were prospectively reported anonymously and analyzed on a database (Excel, Open Office).

Results

94 participants from 67 hospitals completed the survey. Only 51% of the centers has an outpatient service dedicated to pancreaticobiliary disorders, and in 52% of the cases without an exclusive direct way of communication between doctors and patients. Only 48% involves regularly a multidisciplinary meeting. Cystic lesions are the most troublesome diseases among specialists. Diagnostic Endoscopic Ultrasoundography (EUS) is not performed in 30% of the hospitals, therapeutic EUS in 42%, endoscopic retrograde colangiopancreatography (ERCP) in 3%. Rapid on-site evaluation is usually not available, or just in selected cases. After ERCP failure, percutaneous drainage is the most common rescue strategy of treatment. Dedicated pancreaticobiliary specialists are not always guaranteed: pathologists just in 43% of hospitals, surgeons in 78%, oncologists in 54%.

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Aims

Deciding to treat the patients who have undergone a complete choledochal transection (E3 Scharlach) after combined cysteroductive surgery with Hyperthermic Intra Peritoneal Chemotherapy for Pseudomyxoma Peritonei.

A rendez-vous procedure by percutaneous and endoscopic approach was performed. The sphincterotome with the stiffer tip of the guidewire was advanced percutaneously until reaching the anterior duct, over the CBD transaction until grasping the wire, restoring the CBD. Finally, a FC-SEMS was placed endoscopically over the guidewire. Cholangiography showed no leak of medium contrast.

Aims

Loco-regional treatments for liver metastasis from colorectal and pancreatic neuroendocrine (NET) tumors are based on surgical resection and/or transcutaneous RFA. Local eradication of metastasis from pancreatic duct adenocarcinoma (PDAC) is more controversial. We aimed to investigate the feasibility and safety of EUS guided RFA in a highly selected group of patients with less than 4 liver metastases (LM).

Methods

Prospective series of patients treated with EUS-guided RFA. A 150cm, 19 gauge needle-electrode connected to a RF generator settled to 50w was used. Technical success was defined as >80% ablation of LM on post RFA CT.

Results

From December 2017 to September 2020, fourteen patients (8 men), median age 64(31-75) were included. Primary tumors were PDAC in 12 patients, pancreatic NET and colon cancer in 1 patient. 24 LM were treated, 8 on right liver lobes; median size 20mm (8-55). Technical success was achieved for 15 of the 20 LM evaluated. Post RFA median survival in PDAC patients was 6 months (1.5-41) while overall median survival was 16 months (2.5-51), the 2 other patients were still alive 13 and 41 months after RFA. Two complications occurred, jaundice treated by PTC and asymptomatic gallbladder hematoma in 1 patient each.

In selected patients, EUS guided RFA for liver metastasis is feasible and safe with high initial technical success. Right liver lobe metastases can be treated as metastasis elsewhere in liver. The unusually prolonged observed survival should be confirmed by larger controlled studies as potential place of EUS-guided RFA in combination treatment for CC liver metastasis.

eP325 IMPACT OF ENDOSCOPIC ULTRASOUND EVALUATION WITH FINE-NEEDLE ASPIRATION OR FINE-NEEDLE BIOPSY IN RESECTABLE PERIHELAR CHOLANGIOCARCINOMA

Authors

Institutes

Aims

Loco-regional treatments for liver metastasis from colorectal and pancreatic neuroendocrine (NET) tumors are based on surgical resection and/or transcutaneous RFA. Local eradication of metastasis from pancreatic duct adenocarcinoma (PDAC) is more controversial. We aimed to investigate the feasibility and safety of EUS guided RFA in a highly selected group of patients with less than 4 liver metastases (LM).

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of chronic pancreatitis. FNB and histological examination confirmed lesion within the pancreatic body, with hypoechoic capsule and intense echogenicity, no intraductal biliary or pancreatic growing and absence of lymphadenopaties. A snare ampullectomy was performed, followed by sphincterotomy, double stenting, and argon-ablation of the margins; discharged in 48 hours. Pathology: traditional serrated adenoma with high-grade dysplasia and no invasion of lamina propria or submucosa. No 6-month recurrence.

Table 1

<table>
<thead>
<tr>
<th>EUS identified suspicious LN</th>
<th>Suspicious LN on imaging (n = 107)</th>
<th>No LN on imaging (n = 34)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUS-identified suspicious LN</td>
<td>70 (65%)</td>
<td>11 (32%)</td>
</tr>
<tr>
<td>EUS-identified suspicious LN</td>
<td>56 (80%)</td>
<td>0 (5%)</td>
</tr>
<tr>
<td>EUS-identified suspicious LN</td>
<td>6 (55%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>EUS-identified suspicious LN</td>
<td>20 (36%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>EUS-identified suspicious LN</td>
<td>18 (17%)</td>
<td>2 (6.0%)</td>
</tr>
<tr>
<td>EUS-identified suspicious LN</td>
<td>55 (51%)</td>
<td>19 (56%)</td>
</tr>
<tr>
<td>EUS-identified suspicious LN</td>
<td>20 (36%)</td>
<td>4 (21%)</td>
</tr>
</tbody>
</table>

Conclusions EUS-identified suspicious LN is the diagnostic value in patients with potentially resectable pCCA additional to cross-sectional imaging. Standardized implementation of EUS with systematic survey of LNs and TA may further increase the yield and positively influence the clinical impact of preoperative EUS.

eP326V EUS-GUIDED FIDUCIAL MARKERS IMPLANTATION FOR PRECISE LOCALIZATION OF Pancreatic NET

Authors Deiana S.,1, Gabbanì T.,1, Impellizzeri G.,1, Ottaviani L.,1, Rainer J.,1, Curatolo A.,1, Bonara G.F.,1, Biancheri P.,1, Soriani P.,1, Manno M.,1
Institute 1 Azienda USL Modena, Gastroenterology and Digestive Endoscopy Unit, Carpi, Italy

A 73-year-old man was referred with weight loss and newly diagnosed diabetes. Abdominal CT and MRI scans showed non-specific enlarged pancreatic body without focal lesions. Conversely, EUS revealed a 21 × 17 mm irregular, well-defined lesion within the pancreatic body, with hypocoeachic capsule and intense enhancement after contrast medium injection, suspicious for a NET, in a context of chronic pancreatitis. FNB and histological examination confirmed the diagnosis of NET. To facilitate NET localization during surgery, we performed EUS-guided fiducial marker implantation. Fiducial marker visualization on intraoperative ultrasound scan aided the precise localization of the pancreatic NET, and successful distal splenopancreatectomy was performed.

eP327V AMPULLECTOMY OF A TRADITIONAL SERRATED ADENOMA

Authors del Pozo-García A.J.,1, Marín-García J.C.,1, Hernán P.1, Sánchez-Gómez F.1
Institute 1 Hospital Universitario 12 de Octubre, Endoscopy Unit, Gastroenterology Service, Madrid, Spain

Female, 51 yo. Background: Primary mediastinal lymphoma in CR after radiochemotherapy (2019). During dyspepsia investigation a big (over 3-cm) sessile (Paris 0-Hs) duodenal ampullary lesion was found by upper endoscopy. Regular margins, absence of spontaneous bleeding, both suggesting benignity. Biopsies: papillary tubulovillous adenoma with low-grade dysplasia. EUS: mucosal layer lesion, intermediate echogenicity, no intraductal biliary or pancreatic growing and absence of lymphadenopaties. A snare ampullectomy was performed, followed by sphincterotomy, double stenting, and argon-ablation of the margins; discharged in 48 hours. Pathology: traditional serrated adenoma with high-grade dysplasia and no invasion of lamina propria or submucosa. No 6-month recurrence.

eP329 SPYGLASSDS-GUIDED LITHOTRIPSY FOR PANCREATIC DUCT STONES IN SYMPTOMATIC, TREATMENT REFRACTORY CHRONIC PANCREATITIS – LONG-TERM (3-5 YEARS) FOLLOW-UP ON CLINICAL SUCCESS AND QUALITY OF LIFE

Authors Dertmann T.1, Sierepsa P.2, Geenen E.-j.3, Schmitz L.1, Schneider M.1, Neuhauß H.1, Beyna T.1, Gerges C.1
Institutes 1 Evangelisches Krankenhaus Duesseldorf, Düsseldorf, Germany; 2 Radboud University, Nijmegen, Netherlands

Aims Digital single-operator-video-pancreatoscopy (d-SOVP) guided lithotripsy was shown to achieve high technical and clinical success rates (95%) in a short-term follow-up (FU). There is only little evidence of mid- and long-term success or impact on quality of life. Methods We performed a retrospective analysis of a long-term FU in 20 patients with d-SOVP-guided lithotripsies (n = 23) between 2015-2017. Persistence of clinical success (pain reduction > 50% in NRS) as well as QOL were evaluated by database-analysis and systematic questionnaire (based on SF-12) after 3, 6, 12, 30 months and in an ongoing FU. Results After 37-62 months (mean = 45 months) 12/15 (80%) patients reported a significant decrease in symptoms (mNRS from 6.1 ± 0.55 to 1.7 ± 0.46, P < 0.01) and described improvements in health status and everyday life performance (SF-12). There was no need of further interventions except subsequent stenting in case of persistent strictures (n = 4). 7/8 patients (87%) received ochemotherapy (2019). Success or impact on quality of life. Conclusion d-SOVP guided lithotripsy is safe and effective, achieving good clinical outcome and high ductal clearance. Bene-
Results Of the 46 patients (median age 50 [IQR 17.5] yrs; male 20 [43.5 %]) included, 19 underwent EUS-HGS and rest PTBD (n = 27). The commonest etiology was carcinoma gallbladder (30; 65.2 %) followed by hilar cholangiocarcinoma (9; 19.6 %). Cholangitis was present in 37 (80.4 %) of which 24 (52.2 %) had severe cholangitis with coagulopathy in 20 (43.5 %). The most common block was type 2 (24; 52.5 %) followed by type 3a (12; 26.1 %). Technical success was 100 % in both the groups. Clinical success was similar in the two groups (78.6 % vs 96.0 %; p = 0.12). Overall adverse events were higher in the PTBD group (44.4 % vs 15.8 %; p = 0.04) with prolonged hospital stay (11.0 vs. 6.0 days; p = 0.007), although none had procedure related deaths.

Conclusions EUS-HGS is an effective and safe alternative to PTBD, with similar success rates but lower adverse-event rates and length of hospitalization.

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Conclusions Endoscopic treatment of large WON is practical, with a minimal need for surgery and acceptable rates of morbidity and mortality.

eP334 THE CONTRIBUTION OF ENDOSCOPIC ULTRA SONOGRAPHY IN AMPULLARY PATHOLOGY

Authors El Mountassir M.1, Borahma M.1, Benelbarhadi I.1, Chabib F.1, Lagdali N.2, Berhilli C.1, Ajana F.1

Institute 1 Mohammed V University, Ibn Sina Hospital, Department of Gastroenterology C, Rabat, Morocco


Aims The aim was to show the role of ultrasound endoscopy in the diagnosis of ampullomas.

Methods This was a study spanning a 2-year period during which 09 patients were identified. We evaluated tumor size, tumor wall staging, pancreatic and biliary impact, tumor echogenicity, vascular relationships and the presence of lymphadenopathy.

Results The mean age was 61 years with a predominance of females. The indication for echoendoscopy was a suspicion of ampulloma in imaging in 55% of cases, a discovery of uncertain ampullary pathology on duodenoscopy before ERCP in 33%, in as part of the etiological assessment of acute pancreatitis in 11% of cases. The tumor was classified as uT1 in 44.4%, uT2 in 33.3%, uT3 in 11.1%, and uT4 in 11.1% of cases. The development was endocanal in 44.4% of cases; exo ampullary and mixed in 44% and pseudo-tumor in only one case. A 22G needle aspiration was performed in 44.5% of cases; the results were in favor of a Vatérien adenocarcinoma in 100% of cases including 2 patients considered uT2 as were operated and classified as uT3N0M1 and PT2 on an operative specimen with absence of vascular emboli. A puncture by biopsy forceps was also performed in 55.5% of cases, the results were in favor of a Vatérien adenocarcinoma in 60%, considered successively uT2, uT3 in two cases and which were operable and classified respectively PT3bN0M1 and PT2N0MX and PT1N0M0X on the surgical specimen. The forceps biopsy came back negative in 40% of cases.

Conclusions: Endoscopic ultrasoundography (EUS) is today the best tool for examining the ampullary region. In our study, we had 100% of positive cases on FNA while the clamp was positive in 60% of cases.

eP335 ENDOSCOPIC RETROGRADE CHOLANGIO-PANCREATEOGRAPHY IN RUPTURED LIVER HYDATID CYST

Authors Elmamouni S.1, Borahma M.2, Chabib F.Z.1, Kadiri M.2, Ben Elbarhadi I.2, Ajana F.Z.2

Institutes 1 Department of Gastroenterology C, Rabat, Morocco; 2 Mohammed V University in Rabat, Department of Gastroenterology C, Rabat, Morocco


Aims We retrospectively reviewed the effectiveness of endoscopic treatment of ruptured hydatid cyst into intrahepatic bile ducts.

Methods It's a retrospective study reporting cases of hydatid cyst ruptured in the bile duct over a period of 17 years and having benefited from endoscopic treatment.

Results Diagnosis of intrabiliary rupture of hydatid cyst was mostly suspected by acute cholangitis, jaundice, pain, and/or persistent external biliary fistula after surgery. The diagnosis was confirmed by radiology and endoscopic retrograde cholangiopancreatography (ERCP) findings. We retrospectively reviewed clinical, laboratory, imagery, and ERCP findings for all patients. The therapeutic methods performed were endoscopic sphincterotomy, extraction by balloon or Dormia basket, stenting, or nasobiliary drainage. Sixteen patients with ruptured hepatic hydatid cyst into bile ducts were seen in 17 years. Nine of 20 patients had a surgical history of hepatic hydatid cyst and three patients had a percutaneous treatment history. We carried out EROCP with sphincterotomy and extraction of hydatid material by extraction balloon (n = 8); Dormia basket (n = 5) or biliary drainage (nasobiliary drainage (n = 1); biliary stenting (n = 1). The fistula healed in 80% of patients with a median time of 6 weeks [range, 1–12] after endoscopic treatment.

Conclusions ERCP was an effective method of treatment for hepatic hydatid cyst with biliary fistula.

eP336 DIAGNOSTIC YIELD OF EUS FNA IN PANCREATIC MASSES: CORRELATION BETWEEN THE CONSERVATIVE USED AND PATHOLOGICAL RESULT

Authors Elmoutaoukil N.1, Rais K.2, El eulj O.2, Tammouch Z.2, Zazour A.2, Kharresse G.2, Ismaili M.Z.2, Khannoussi W.2

Institutes 1 Najoua Elmoutaoukil, Oujda, Morocco; 2 Mohammed First University, Digestive Disease Research Laboratory, Oujda, Morocco


Aims To evaluate the yield of EUS FNA in the diagnosis of pancreatic masses and establish a correlation between the conservative used and pathological results.

Methods A retrospective descriptive study, from August 2016 to August 2021, including 106 EUS-FNA performed and 99 patients with a pancreatic mass. Data regarding the results were analysed by SPSS.

Results Mean age was 63.3 years; sex ratio was 1. Mean lesion size was 4 cm; needle used was 22G in 87.7%; techniques frequently used were “slow pull” associated with aspiration in 50% of cases and slow pull alone in 43.4%; the mean pass number was 2.4; conservative was chosen in concert with anatomopathologists; cytolite and formalin in 34%, cytolyte alone in 20%, slide spreading + formalin in 16%, and saline alone in 7.5% of cases; a combination of several conservatives was possible. Cell block procedure was performed in 82.4%. The association of cytological and cell block procedure revealed the following results: pancreatic adenocarcinoma in 65.6%; pancreatic adenosquamous carcinoma in 2%; pancreatic lymphoma in 1%; metastasis of pulmonary keratinizing squamous cell carcinoma in 1% (Figure 1: a-c: aspiration, d: cell block), pancreatic carcinoma in situ in 1%; solid and pseudo-papillary pancreatic tumor in 2%; pancreatic tuberculosis, mucinous cystadenoma, autoimmune pancreatitis, and chronic pancreatitis respectively in 1%. 3 cases of minimal bleeding, resolved spontaneously, were noted.

Fig. 1

Conclusions The yield of EUS FNA in the diagnosis of pancreatic masses in our experience was 80%. Most used conservative was cytolyte alone or combined in 65%; confirming a most diagnosis in 53.7%.
eP337  EFFECT OF BLOOD CONTAMINATION ON EUS GUIDED SAMPLING OF BILO-PANCREATIC MASSES: MULTICENTER STUDY

Authors  El-Nady M.1, Altonbary A.2, Hakim H.2, Abou-Elmagd A.3, Abbas W.4
Institutes  1 Faculty of Medicine – Cairo University, Cairo, Egypt; 2 Faculty of Medicine – Mansoura University, Mansoura, Egypt; 3 Armed Forces College of Medicine, Cairo, Egypt; 4 Faculty of Medicine – Assiut University, Assiut, Egypt

Aims  Endoscopic ultrasonography (EUS) is an established tool for the detection, staging, sampling and optimal management of pancreatic and hepatobiliary tumors. Sampling of vascular rich lesions may carry increased risk of hemorrhage with its subsequent complications. The present study aimed to evaluate the role of EUS guided sampling of vascular rich pancreatic lesions and demonstration of the effect of blood contamination on accurate diagnosis.

Methods  The study was conducted on three hundred eighty eight patients after a written informed consent was obtained from all patients. Patient selection based on identification of vascular rich pancreatic lesions during performing endoscopic ultrasonography with use of color doppler imaging beside the presence of indication of tissue aquistation for management decision. Lesions were classified according to proportion of adequate clusters of cells for diagnosis to the amount of blood contaminating the examination field.

Results  The number of passes used to obtain cytological material was correlated with amount of blood contaminating in the specimen. Little amount of blood contaminating slide along with adequate cellularity for proper cytological evaluation was seen in the first 2 passes in total 358 patients compared to the 3rd and 4th passes done in 30 patients.

Conclusions  For accurate diagnosis of hypervascular pancreatic lesions, using capillary technique, performing less number of passes and the presence of cytopathologist with rapid on site evaluation were associated with subsequent accurate cytological reporting.

eP338  EFFECTIVENESS OF DOUBLE-BALLOON ENTEROSCOPY-ASSISTED ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY (DBE-ERCP): A MULTICENTER REAL-WORLD STUDY

Authors  Farina E.1, Cavallaro F.2, Cantù P.2, Iori V.1, Rosa-Rizzotto E.1, Cavina M.1, Tontini G.E.1, Sassatelli R.1, Vecchi M.1, Penagini R.1, Nandi N.1, Scaramella L.2, Ebi L.2
Institutes  1 Foundation IRCCS Ca’ Granda Ospedale Maggiore Policlinico, University of Milan, Division of Gastroenterology and Endoscopy, Milan, Italy; 2 Foundation IRCCS Ca’ Granda Ospedale Maggiore Policlinico, Division of Gastroenterology and Endoscopy, Milan, Italy; 3 Azienda USL-IRCCS Reggio nell’Emilia, Gastroenterology and Digestive Endoscopy Unit, Reggio Emilia, Italy; 4 St. Anthony Hospital, Azienda Ospedale-Univer- sità, Gastroenterology Unit, Padova, Italy

Aims  To investigate the effectiveness of DBE-ERCP in patients with different post-surgical anatomical gastrointestinal alterations (SAAs).

Methods  From May 2013 to October 2021, all consecutive patients undergoing DBE-ERCP in three referral Gastroenterological Centers in Northern Italy were enrolled in the study. Patients were assessed for their medical history, previous surgery, time from previous surgery to DBE-ERCP procedure, success and failure of DBE-ERCP.

Results  Sixty-seven DBE-ERCP procedures were performed in 53 enrolled patients (60.5% men, median age 67 yrs (23-89), 1-3 DBE-ERCP per patients). Reasons for SAA were orthotopic liver transplantation (22%), ulcers (15%), malignancies (44%), complicated cholecystectomy (17%), others (2%). Type of surgery was Roux-en-Y biliodigestive anastomosis (44%), Roux-en-Y gastrectomy (33%), pancreaticoduodenectomy (17%), Billi gastrectomy (6%). The success rate of DBE was 72%, with an overall DBE-ERCP success rate of 85%. Type of surgery, indications and the timelapse between surgery and DBE-ERCP were not statistically associated with DBE-ERCP success. From 2013 to 2021 the success rate increased significantly (55% vs 79%, p = 0.067).

Conclusions  DBE-ERCP is a successful procedure in challenging patients with SAA. The time dependent improvement of results indicates the necessity of an adequate training and of centralizing patients in referral centers.

eP339  CONTRIBUTION OF ENDOCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY (ERCP) IN THE MANAGEMENT OF RUPTURED LIVER HYDATIDOSIS CYST IN THE BILE DUCTS

Authors  Ferchichi I.1, Yakoubi M.1, Ben Abdallah K.1, Khisa A.1, Ben Mohamed A.1, Mahmoudi M.1, Medhioub M.1, Hamzaoui M.L.1, Azouz M.M.1
Institute  1 Mohamed Taher Maamouri Hospital of Nabeul, Department of Gastroenterology, Nabeul, Tunisia

Aims  Assess the contribution of retrograde cholangiopancreatography (ERCP) in the management of liver hydatidosis cyst in the bile ducts.

Methods  This was a retrospective descriptive study collecting patients treated with an ERCP for rupture of the liver hydatidosis cyst in the bile ducts between 2013 and 2021.

Results  Eighty-two patients were collected among a total of 1346 ERCP performed (6.9%). The average age was 46.4 years [16-87]. The sex ratio (H/F) was 1.13. Cholangitis was the primary indication of ERCP in 56 cases. Elsewhere, it was performed in 25 patients (or 30.48) with post-operative persistent biliary fistule and one case of hydatid pancreatitis. The common bile duct was catheterized in 95.16% of cases. Extraction of water-based material was performed in 23 patients. The evolution was marked by the occurrence of acute pancreatitis in three patients. No case of hemorrhage or perforation post-CPRE was noted. A good long-term clinical evolution.

Conclusions  Endoscopic treatment of ruptured liver hydatidosis cyst in the bile ducts is an effective therapeutic alternative, with a low rate of immediate complications (3.22%) and a favorable long-term evolution.

eP340V  ENDOSCOPIC EXTRACTION OF 80 COMMON BILE DUCT (CBD) STONES

Authors  Ferchichi I.1, Khsiba A.1, Ben Abdallah K.1, Mahmoudi M.1, Ben Mohamed A.1, Yakoubi M.1, Mesdioub M.1, Hamzaoui M.L.1, Azouz M.M.1
Institute  1 Mohamed Taher Maamouri Hospital of Nabeul, Department of Gastroenterology, Nabeul, Tunisia

Most common bile duct (CBD) stones can be removed with standard techniques using endoscopic retrograde cholangiopancreatography (ERCP), but in some cases CBD stones cannot be extracted using standard techniques, which are termed as “difficult stones.” One of the properties of difficult stones is a number of stones > 3. We hereby report the case of an endoscopic extraction of 80 CBD stones. After CBD cannulation, sphincterotomy was performed with an endoscopic sphincterotome placed using a guidewire. Balloon dilation was performed. Then, Existing stones (80 stones) were extracted with an extraction balloon, and biliary clearance was confirmed by injecting radio-contrast.
Conclusions

95% confidence interval, 0.209-0.941; p = 0.034). Patients with inoperable MHSs who underwent endoscopic insertion of SEMS or PS were enrolled. The main outcome measurements were technical and clinical success rates, rate of reintervention for malfunction after successful stent placement, adverse events, and survival duration.

Results

A total of 70 pathology-diagnosed patients were enrolled. SEMS were placed in 48 (68.5%) and PS in 22 (31.5%) patients. Unilateral drainage was performed in 44 (62.9%) and bilateral in 32 (37.1%) patients. Technical success was achieved in 19 (86.3%) patients treated with PS and in 47 (97.9%) patients palliated with SEMS. The clinical success rates were 83.3% (40/48) and 61.9% (13/21), respectively (P = 0.047). Median rehospitalization time was 207 days for SEMS and 167 days for PS (P = 0.047). Rate of reinsertion was 50% (24/48) for SEMS and 50% (11/22) for PS. Median cumulative stent patency was 321 days for SEMS and 285 days for PS. Rate of early complications was 22.9% (11/48) for SEMS and 40.9% (9/22) for PS. Median survival was 438 days for SEMS and 268 days for PS. In multivariate Cox proportional hazard model to assess survival, SEMS placement was a favorable factor (adjusted hazard ratio 0.444, 95% confidence interval, 0.209-0.941; p = 0.034).

Conclusions

SEMS use for palliation in patients with MHS is associated with higher clinical success rates and better survival in our population.

eP342V PERCUtANEOUS TRANSCYSTIC CHOLANGIOSCOPY-GUIDED ELECTROHYDRAULIC LITHOTRIPSY IN A PATIENT WITH ALTERED SURGICAL ANATOMY

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A 68-year-old man with history of distal gastrectomy underwent urgent cholecystectomy due to acute cholecystitis. Intraoperative cholangioscopy showed an unremovable common bile duct (CBD) stone; a transcytic nasolater tube was placed, with subsequent accidental displacement. As percutaneous biliary drainage persisted, percutaneous transcytic cholangioscopy-guided electrohydraulic lithotripsy was performed. Contrast instilled on percutaneous access confirmed persistence of the tract; guidewire passage into the CBD was achieved with contrast and single-operator cholangioscope assistance; cholangioscope passage was possible after dilatation of the proximal tract, with stone visualization in the distal CBD. Electrohydraulic lithotripsy was performed with stone pulverization. Patient remains well one month later.

eP344 THE USE OF ROSE AND TOUCH IMPRINT CYTOLOGY (TIC) FOR THE DIAGNOSIS OF SOLID PANCREATIC TUMORS. A RETROSPECTIVE STUDY

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Aims Endoscopic ultrasound (EUS) combined with the cytological examination, has significantly improved the diagnostic evaluation of patients with solid tumors in the pancreas. ROSE (Rapid On Site Evaluation) has a major role in the immediate and reliable diagnostic approach. The aim of this study was to evaluate the role of ROSE combined with TIC (isolation of blood clots from smears) in solid pancreatic tumors found by EUS.

Methods Retrospective study of patients with solid pancreatic tumors who performed EUS-FNA/B and cytological evaluation from 03/2017 to 06/2021 at a tertiary hospital.

Results 142 patients were included in the study [82 (57.7%) women & 60 (42.3%) men, mean age 70 years (IQR: 16, range: 28-89)]. In 131 patients, a
sample was used for cytological examination (FNA needle was used in 3 patients & FNB needle was used in 129). In 11 patients either a histological or cytological diagnosis was made from another examination (ERCP, material from secondary liver foci /8 patients) or it was considered impossible to take a sample due to the presence of interfering vascular formation (3 patients). ROSE combined with the TIC made the diagnosis of malignancy or suspected malignancy in 86 (65.7 %) patients. The final diagnosis included malignancy in 91 (69.5 %) patients and the suspicion of malignancy in 22 patients (16.8 %) respectively.

Conclusions This study shows that ROSE combined with the TIC on EUS – FNA/B provides immediate and reliable diagnosis in the evaluation of solid pancreatic tumors.

**Methods** This is a multicenter, international, retrospective study from 10 centers of all patients who underwent cholangioscopy or pancreatoscopy using the combination of single-use duodenoscope and single-use cholangioscope. The primary outcome was to evaluate the technical success. Secondary outcomes were: procedural time, rate of cross-over to reusable duodenoscope, AEs rate.

**Results** A total of 65 patients (26 (40.0 %) female) were included in the study. The technical success rate was 98.5 % (64/65). Procedural time was 76.0 ± 30.4 minutes, cross-over rate was 1.5 %. In our population only four patients (6.2 %) experienced AEs, namely 2 post ERCP pancreatitis (PEP), 1 cholangitis and 1 bleeding. The performance of the single-use duodenoscope was classified by the operators as: satisfied and very satisfied in 83.1 % (54/65) of the cases whereas a score lower than sufficient was reported in only one procedure.

**Conclusions** Single-use duodenoscope is effective, reliable and safe even in technically challenging procedures with a non-inferiority to reusable duodenoscope that makes these devices a viable alternative to standard equipment.
eP349 SAFETY AND EFFICACY OF ENDOSCOPIC ULTRASONOUND GUIDED LIVER BIOPSY (EUS–LB): AN INITIAL EXPERIENCE FROM TERTIARY CARE CENTER IN INDIA

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Methods Retrospective analysis of prospectively maintained database. Inclusions–EUS-LB for evaluation of undiagnosed liver diseases; Exclusions–EUS-LB for mass lesions. Propofol sedation;19G FNB needle; Left lobe targeted; 1 / 2 passes under EUS-Doppler guidance; < 5 to-and-fro movements during each pass; dry heparin technique. Parameters evaluated–Total specimen length(TSL), complete portal triads(CPT), diagnostic yield, adverse events(AEs).

Results Study period–June-November 2021. N = 13; M:F–6:7; mean age–46.5(SD ± 15.4) years. Perceived risk of bleed, ascites or concomitant evaluation within diagnostic algorithms for liver diseases; high diagnostic yield. Concomitant evaluation of coexisting extrapathologic biliary pathology, portal hypertension, and variceal endotherapy can be effectively performed during same procedure. Larger prospective comparative studies recommended.

Conclusions EUS-LB is safe and effective for liver sampling during EUS evaluation within diagnostic algorithms for liver diseases; high diagnostic yield. Concomitant evaluation of coexisting extrapathologic biliary pathology, portal hypertension, and variceal endotherapy can be effectively performed during same procedure. Larger prospective comparative studies recommended.

Table 1

<table>
<thead>
<tr>
<th>Group A (n = 44)</th>
<th>Group B (n = 44)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age, years ± SD</td>
<td>59.1 ± 9.8</td>
<td>78.1 ± 5.7</td>
</tr>
<tr>
<td>Number of previous ERCP, mean ± SD</td>
<td>1.2 ± 1.25</td>
<td>1.4 ± 1.18</td>
</tr>
<tr>
<td>Patients with comorbidities, n (%)</td>
<td>23 (52 %)</td>
<td>29 (66 %)</td>
</tr>
<tr>
<td>Indication (Stricture/Lithiasis(Other), n (%)</td>
<td>15/23/5 (35% – 53% – 5 %)</td>
<td>19/20/6 (42% – 45 % – 13 %)</td>
</tr>
</tbody>
</table>

Conclusions DSOC in elderly patients showed efficacy and safety profile comparable with those of younger patients.

eP350 EFFICACY AND SAFETY OF DIGITAL SINGLE-OPERATOR CHOLANGIOPANCREATOSCOPY IN ELDERLY PATIENTS IN A TERTIARY REFERRAL CENTER

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Aims Digital single-operator cholangioscopy (DSOC) became a key element in diagnosis and treatment of pancreato-biliary diseases, as difficult lithiasis or indeterminate strictures. Data about safety and efficacy of DSOC in patients older than 70 years are scanty; aim of this study is to assess safety and efficacy of DSOC in this population.

Methods All patients underwent DSOC in our tertiary referral center in Turin from January 2016 to October 2021 were retrospectively analyzed, extracting data from a prospective collected database.

We divided our cohort in two groups, group A (<70 years) and group B (≥70 years), comparing demographic and clinical data, technical success and complications rates with T-Student test or Fisher’s exact test where indicated.

Results 111 procedures were performed in 88 patients, 44 in each group; mean follow up was 12 ± 14.9 months. Comorbidity rate, number of previous ERCP and indication for DSOC were comparable among groups (Table 1). Technical success (the successful insertion of cholangioscope with the visualization of target) was similar among groups and was achieved in 55 procedures in group A (95 %) and in 56 procedures in group B (100 %, p = 0.24). Six patients in group A (14 %) and seven patients in group B (16 %, p > 0.09) experienced respectively 6 and 9 adverse events (10 % vs 17 %, p = 0.41). Cholangitis was the most common adverse event in both groups. All adverse events were managed medically and/or endoscopically.

Table 1

<table>
<thead>
<tr>
<th>Group A (n = 23)</th>
<th>Group B (n = 24)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age, years ± SD</td>
<td>63.5 ± 13.2</td>
<td>71.4 ± 9.5</td>
</tr>
<tr>
<td>Number of previous ERCP, mean ± SD</td>
<td>1.2 ± 1.25</td>
<td>1.4 ± 1.18</td>
</tr>
<tr>
<td>Patients with comorbidities, n (%)</td>
<td>23 (52 %)</td>
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</tbody>
</table>

Conclusions DSOC in elderly patients showed efficacy and safety profile comparable with those of younger patients.

eP351 RISK FACTORS ASSOCIATED WITH POST-ERCP PANCREATITIS – EXPERIENCE OF A HIGH-VOLUME ENDOSCOPIC CENTER

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Aims The rate of post-ERCP pancreatitis (PEP) is about 3-10 %. The aim of this study was to analyze the risk of pancreatitis in a training situation of ERCP. In addition, other predisposing factors for a higher risk of PEP were assessed.
Methods In a retrospective single-center cohort study, 784 consecutively examined patients who underwent ERCP between April 2020 and July 2021 at the University Hospital Augsburg were included. Fellows and trainees (ERCP < 1000) were supervised by an experienced endoscopist (ERCPr > 1000). All patients received a standardized PEP-protocol with NSAIDs and hydration.

Results The frequency of PEP was 3.13 % (n = 13) in non-native and 10.3 % (n = 38; p < 0.01) in native papilla, respectively. In a multicentric analysis, age, precut papillotomy, number of cannulation attempts, amount of contrast agent and overall treatment duration increased the risk of PEP (p < 0.01). However, supervised ERCP in a training setting, gender and type of papilla were not associated with an increase in PEP. Malignant indications had a significantly (p < 0.05) lower rate of PEP.

Conclusions We confirm according to other publications that difficult and longer procedures, as well as native papilla, younger age, precut papillotomy and amount of contrast agent is associated with higher risk for PEP. However, in our unit ERCP in a supervised training setting was not associated with increased PEP.

eP352 EXPERIENCE WITH THE USE OF SINGLE-USE EXALT D DUODENOSCOPE IN DAILY PRACTICE IN A TERTIARY HOSPITAL

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Aims Endogenous multidrug-resistant (MDR) infections are associated with the use of contaminated duodenoscopes. Disposable duodenoscopes can prevent them. Our aim is to evaluate the functionality of the EXALT D single-use duodenoscope in daily practice.

Methods Prospective study from October 2020 to July 2021 of all ERCPs performed in our hospital.

Results Out of 357 ERCPs performed, EXALT was used in 15 (4.2 %) ERCPs of 14 patients (10 men; 65.5 (12.3) years). Indications for EXALT were: recent liver transplant 9 (60 %), COVID 1 (6.7 %), previous MDR infection 1 (6.7 %), neoplastic obstructive jaundice 3 (20 %), active oncological treatment 1 (6.7 %). In all cases the passage to the papilla was easy in a mean (SD) of 73.3 (27.5) seconds. Cannulation was achieved in 14/15 patients. Precut papillotomy and number of cannulation attempts, amount of contrast agent and overall treatment duration increased the risk of PEP (p < 0.01). However, supervised ERCP in a training setting, gender and type of papilla were not associated with an increase in PEP. Malignant indications had a significantly (p < 0.05) lower rate of PEP.

Conclusions We confirm according to other publications that difficult and longer procedures, as well as native papilla, younger age, precut papillotomy and amount of contrast agent is associated with higher risk for PEP. However, in our unit ERCP in a supervised training setting was not associated with increased PEP.

eP354 TRANSEPTIC CHOLANGIOSCOPY-GUIDED ELECTROHYDRAULIC LITHOTRIPSY FOR LARGE COMMON BILE DUCT STONE AND ANTEGRADE DUCTAL CLEARANCE IN A PATIENT WITH DIFFICULT TRANSPAPILLARY ACCESS

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Aims We are reporting an innovative approach of managing large common bile duct stone through transhepatic route in a patient with inaccessible transpapillary cannulation.

Methods Care report: A 50 years female with abdominal pain, jaundice, and a large CBD stone on imaging underwent duodenoscopy which revealed a large periampullary diverticulum filled with semi-solid food particles. Ampulla was completely buried in the diverticula and could not be located so percutaneous transhepatic drainage (PTBD) was performed. Percutaneous transhepatic cholangioscopy (PTHC) was performed after 2 weeks through a mature bili-cutaneous fistula under sedation in the prone position. A novel cholangiscope was inserted after replacing the PTBD catheter with an 11 French sheath and electrohydraulic lithotripsy (EHL) was performed and satisfactory fragmentation was achieved after 600 shocks. The CBD clearance was achieved after performing antegrade sphincteroplasty and extractor balloon sweeps.

Results In our case transpapillary approach was not possible so opted for PTHC instead of surgery. As the track was already 2 weeks mature so 11 French sheath was easily passed followed by easy entry of cholangioscope. The stone was easily fragmented after 600 shocks at low energy and frequency. Antegrade sphincteroplasty and balloon sweeps were also easy as was the occlusion cholangiogram. The only drawback of this technique is that intrahepatic ducts balloon sweeps require a conventional retrograde approach and increase the time of the procedure.

Conclusions This case signifies that transpapillary cholangioscopy guided EHL is a viable, safe, and effective therapeutic modality in eligible patients.

eP355 IMPACT OF PROPHYLACTIC STENT INSERTION INTO THE COMMON BILE DUCT DURING ERCP ON BILIARY COMPLICATION RATE PRIOR CHE: A SINGLE-CENTER RETROSPECTIVE ANALYSIS

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Aims ERC with stone removal out of the CBD is generally followed by CHE. Recurrent biliary complications prior CHE can occur and thus immediate CHE should be aimed as recommended in current guidelines. However, in clinical practice CHE is still often postponed. In this scenario prophylactic biliary stent- ing until CHE might be beneficial. We evaluated whether stent insertion into the common bile duct has an impact on the rate of biliary complications prior to CHE.

Methods We retrospectively screened our ERC-database from December 2014 until January 2020 and identified patients with complete stone-removal by ERC prior CHE. Patients with and without prophylactic biliary stent placement were divided in two groups and analyzed regarding complication rate.

Results In total we included 136 patients with an age of 61 ± 16 years. The stent group consisted out of 97 and the non-stenting group out of 39 patients. The mean time until CHE differed not significantly between two groups (60 ± 67 vs. 146 ± 356 days, p = 0.94). Biliary complication rate (obstruction, cholangitis, pancreatitis) was not significantly different between the stent-group and non-stent-group (6.2 % vs. 10.0 % p = 0.47). In the stent-group, the second ERC was performed 37 ± 28 days after CHE. Despite the reported negative fluorogram in the first ERC, in 31 out of 97 (32 %) patients remaining stones could be detected and extracted during the second ERC.
Conclusions Prophylactic CBD stenting prior postponed CHE shows no advantage regarding biliary complications. However, incomplete stone removal during initial ERC can occur and a second ERC post CHE could be beneficial.

### Table 1

<table>
<thead>
<tr>
<th>Baseline characteristics</th>
<th>IPMN (n = 29)</th>
<th>Chronic pancreatitis (n = 13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male, n (%)</td>
<td>18 (62.1)</td>
<td>8 (61.5)</td>
</tr>
<tr>
<td>Age, mean (SD)</td>
<td>69.0 (7.2)</td>
<td>55.1 (8.5)</td>
</tr>
<tr>
<td>Diameter pancreatic duct (mm), mean (SD)</td>
<td>10.3 (3.9)</td>
<td>7.3 (2.6)</td>
</tr>
</tbody>
</table>

ICRS, Amsterdam, Netherlands; Department of Gastroenterology and hepatology, Leiden, Netherlands; Pathology, Amsterdam, Netherlands.

### eP356 ENDOSCOPIC RETROGRADE CHOLANGIO-PANCREATOGRAPHY IN CENTENARIANS

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**Institute** 1 Japanese Red Cross Date Hospital, Department of Gastroenterology, Date, Japan

**DOI** 10.1055/s-0042-1745209

**Aims** Endoscopic retrograde cholangiopancreatography (ERCP) is effective in the diagnosis and treatment of various pancreaticobiliary diseases. However, no studies have been available concerning the feasibility, efficacy, and safety of ERCP in centenarians.

**Methods** Between January 2017 and November 2021, a total of 1478 ERCP procedures were performed at our institution. Retrospective data of ERCPs were analyzed to evaluate the effectiveness and safety in patients aged 100 years and older. Altogether, 15 ERCPs (2-6 per patient) were attempted in 5 pts (4 women; mean age, 100 years; range 100-102 years). A diagnosis and severity of ERCP complications were made according to “a lexicon for endoscopic adverse events” (GIE 2010).

**Results** All patients had one or more concomitant diseases and one was bed-ridden. Therapeutic procedures were indicated in all explorations. The first indications for ERCP were acute cholangitis due to choledocholithiasis in 4 patients and metal stent obstruction for peripancreatic carcinoma in one. Initial biliary cannulation was unsuccessful in one patient and was successful the next day followed by needle knife papillotomy. One out of 15 explorations, ERCP was unsuccessful in one owing to duodenal stenosis of peripancreatic carcinoma, and EUS-guided hepaticogastrostomy was performed following duodenal stent placement. The complications were as follows: 1) hypertension in 9 explorations (60%), 2) mild perforation in one, and 3) immediate bleeding in one. There were no pancreatitis, hemorrhage, or mortality related to the procedure.

**Conclusions** ERCP is a safe and effective procedure with a low complication rate in centenarians.

### eP357 ARE BIOMARKERS IN PANCREATIC JUICE USEFUL TO DIFFERENTIATE BETWEEN CHRONIC PANCREATITIS AND IPMN WITH MAIN DUCT INVOLVEMENT?

**Authors** Hoogenboom S.A.1, Gorris M.1, de Maaker M.J.2, Halfwerk J.2, Lekkerkerker S.1, Wielenka M.1, Besselink M.1, van Hooft J.4, Dijk F.2

**Institutes** 1 Amsterdam UMC, Department of Gastroenterology and hepatology, Amsterdam, Netherlands; 2 Amsterdam UMC, Department of Pathology, Amsterdam, Netherlands; 3 Amsterdam UMC, Department of Surgery, Amsterdam, Netherlands; 4 Leiden University Medical Center, Department of Gastroenterology and hepatology, Leiden, Netherlands

**DOI** 10.1055/s-0042-1745210

**Aims** In patients with main pancreatic duct (MPD) dilation, differentiation between chronic pancreatitis (CP) and main-duct or mixed-type intraduct papillary mucinous neoplasia (IPMN) can be challenging. The aim of this study was to evaluate if biomarkers in pancreatic juice, including CEA, glucose and mutations in KRAS were determined and compared between CP- and IPMN-samples.

**Methods** A single center pilot study with a post-hoc analysis was conducted in a prospective biobank of pancreatic juice samples from patients with either CP or IPMN with MPD involvement. All patients underwent pancreatic surgery between 2014 – 2020 and pancreatic juice was collected during surgery. CEA, glucose and mutations in KRAS were determined in comparison between CP- and IPMN-samples.

**Results** Pancreatic juice samples were collected from 13 patients with CP and 29 patients with IPMN. KRAS-mutations were present in 9/12 CP- and 25/25 of IPMN patients (p = 0.028). Median CEA (mmol/l) in pancreatic juice from CP patients (n = 8) was 197.2 (IQR 388.3) and 209.0 (IQR 2039.8) in patients with IPMN (n = 15, p = 0.466). Median glucose (mg/dl) in CP patients (n = 9) was 1.8 (IQR 1.35) and 2.7 (IQR 4.1) in patients with IPMN (n = 15, p = 0.815).

**Conclusions** This pilot study could not confirm an added value of CEA and glucose in pancreatic juice to differentiate between CP and IPMN. Although the presence of a KRAS-mutation does not contribute to the discrimination between CP and IPMN, the absence of a KRAS mutations may be indicative for a chronic inflammatory cause of pancreatic duct dilation.

### eP358 ENDOSCOPIC TREATMENT OF LIVER HYDATID CYSTS WITH INTRA BILIARY RUPTURE

**Authors** Rami S.1, Elmqaddem O.1, Adamou F.1, Amri F.1, Nasiri M.1, Zazour A.1, Khannoussi W.1, Kharras G.1, Ismaili Z.1

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**DOI** 10.1055/s-0042-1745211

**Aims** Study the contribution of ERCP in the management of liver hydatid cysts with intrabiliary rupture.
ENDOSCOPIC TREATMENT OF PANCREATICO-PLEURAL FISTULAS

Authors Jagiełski M.1, Piątkowski J.1, Jadowski M.1
Institute 1 Collegium Medicum Nicolaus Copernicus University, Department of General, Gastroenterological and Oncological Surgery, Toruń, Poland

Aims Assessment of efficacy of various endoscopic techniques in treatment of patients with pancreaticopleural fistula.

Methods Prospective analysis of endoscopic treatment of all consecutive 22 patients with pancreaticopleural fistulas in the course of pancreatitis in years 2018-2021 in the Department of General, Gastroenterological and Oncological Surgery, Collegium Medicum, Nicolaus Copernicus University in Toruń, Poland.

Results In 22 patients (21 males, 1 female; average age 49,52 [30-67] years) with pancreatitis pancreaticopleural fistulas were diagnosed. In 19/22 (86.36 %) patients fistula was communicated with left pleural cavity; in 3/22 (13.64 %) patients with right pleural cavity. In all 22 cases drainage of pleural cavity was performed. Chronic pancreatitis was recognized in 14/22 (63.64 %) cases. In 15/22 (68.18 %) patients with pancreaticopleural fistulas symptomatic pancreatic and peripancreatic collections (PPFCs) were diagnosed (11 patients with pseudocyst and 4 patients with walled-off pancreatic necrosis). In 21/22 (95.45 %) cases endoscopic retrograde pancreatography (ERP) was performed, during which the presence of fistula was confirmed. In all 21 patients endoscopic sphincterotomy with stenting of main pancreatic duct was performed (passive transpapillary drainage). In 1/22 (4.55 %) patient active transmural drainage of pancreaticopleural fistula was performed due to inflammatory infiltration of peripancreatic area preventing performance of ERP. Additionally, in all 15 patients transmural endoscopic drainage of PPFcs was performed. Clinical success was achieved in 21/22 (95.45 %) cases. Total endotherapy period was average 191 (88-712) days. Long-term success in endoscopic treatment of pancreaticopleural fistulas was stated in 19/22 (86.36 %) patients.

Conclusions Endoscopic treatment of post-inflammatory pancreaticopleural fistulas is an effective method of treatment.

THE ROLE OF ENDOSCOPIC ULTRASOUND-GUIDED TRANSMURAL APPROACH IN THE MANAGEMENT OF BILIARY OBSTRUCTIONS

Authors Jagiełski M.1, Zieleński M.1, Piątkowski J.1, Jadowski M.1
Institute 1 Collegium Medicum Nicolaus Copernicus University, Department of General, Gastroenterological and Oncological Surgery, Toruń, Poland

Aims Transpapillary biliary drainage in ERP is an established method for treatment of patients with benign and malignant biliary obstruction. However, attempts to gain access to the biliary tract through the major duodenal papilla during ERP have been unsuccessful in some patients. This study aims to determine the role of EUS-guided transmural approach in biliary endotherapy in case of failed ERP.

Methods A prospective analysis of the treatment outcomes of all 896 patients with obstructive jaundice secondary to biliary obstruction, who underwent endoscopic treatment in the years 2016-2021 at our institution.

Results Effective drainage of bile ducts through the major duodenal papilla during ERP was achieved in 772/896 (86.16 %) patients with biliary obstruction. In 124/896 (13.84 %) patients (92 males, 32 females; mean age 63,52 [46-89] years) ERP failed and EUS-guided transmural approach was performed. Benign biliary obstruction was identified in 17/124 (13.71 %) patients; the remaining 107/124 (86.29 %) were diagnosed with malignant biliary obstruction. EUS-guided endoscopic transpapillary biliary tract stenting with transmural access was performed in 21/124 (16.94 %) patients; the remaining 103/124 (83.06 %) required extra-anatomical transmural anastomosis of the bile ducts to the gastrointestinal tract. Technical success was achieved in 121/124 (97.58 %) patients, while clinical success was achieved in 112/124
(90.32%). Complications were reported in 15/124 (12.1%) patients; with early complications in 12 and late complications in 3.

**Conclusions** Various methods of EUS-guided transmural access to bile ducts improves endotherapy outcomes of patients with biliary obstruction. Endoscopic transmural access is highly effective and associated with an acceptable number of complications.

**eP362**  **THE ROLE OF ANTIBIOTICS IN ENDOSONIC TRANSMURAL DRAINAGE OF POST-INFLAMMATORY PANCREATIC AND PERIPANCREATIC FLUID COLLECTIONS**

**Authors** Jagiełski M.¹, Kupczyk W.¹, Płatkowski J.¹, Jackowski M.¹
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**DOI** 10.1055/s-0042-1745215

**Aims** Assessment of the role of antibiotics in endoscopic transmural drainage of post-inflammatory pancreatic and peripancreatic fluid collections (PPPFCs).

**Methods** Randomized trial covering study group of 62 patients treated endoscopically due to PPPFCs in 2020 in our medical center. The first group consisted of patients who were receiving empirical intravenous antibiotic therapy during endotherapy. The second group consisted of patients without antibiotic therapy during endoscopic drainage of PPPFCs.

**Results** 31 patients were included into the first group (walled-off pancreatic necrosis [WOPN]: 51.6%, pseudocyst-48.4%) and 31 patients into the second group (WOPN-58.1%, pseudocyst-41.9%) ($p < 0.05$). Infection of PPPFCs content was stated in 16/31 (51.6%) patients from the first group and in 14/31 (45.2%) patients from the second group ($p > 0.05$). Average time of active drainage in the first group was 13.0 (6-21) days and in the second group - 14.0 (7-25) days ($p > 0.05$). Total number of endoscopic procedures on one patients was on average 3.3 (2-5) in the first group and 3.4 (2-7) in the second group ($p > 0.05$).

**Conclusions** The aim is to assess the role of cholangioscopy-guided biopsy in the diagnosis of indeterminate biliary strictures.

**eP364**  **THE ROLE OF THE CHOLANGIOSCOPY- GUIDED BIOPSY IN THE DIAGNOSIS OF INDETERMINATE BILIARY STRICTURES**

**Authors** Karaguzov P.¹, Zhecheva I.¹, Tishkov I.¹, Draganov K.²
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**DOI** 10.1055/s-0042-1745217

**Aims** The aim is to assess the role of cholangioscopy-guided biopsy in the diagnosis of indeterminate biliary strictures.

**Methods** Data was collected retrospectively from March 2016 to August 2021. All patients with indeterminate biliary strictures underwent single-operator cholangioscopy with the SpyGlass DS system. The visual aspect of the stricture was assessed and at least 4 biopsies were taken under direct visual control using the SpyGlass forceps.

**Results** One hundred and eighty patients (N = 180, 111 men, 69 women) with indeterminate biliary strictures underwent peroral cholangioscopy during the study period. The biliary stenosis were classified into three categories based on the type of histology results: 72 malignant lesions, 71 benign lesions, while 37 were inconclusive for malignancy. Final diagnosis was made on the basis of definitive malignancy histology, surgical findings, diagnostic laparoscopy with biopsy samples or clinical follow-up of at least 6 months. Among the 71 patients with benign histology the final diagnosis was changed to “malignant” in 50. Among the 37 patients with histology result “inconclusive for malignancy” the final diagnosis was malignant in 35.

**Conclusions** Despite the significant advancements in the cholangioscopy in recent years, making the procedure easier, more accessible and with very good image quality, further improvement of biopsy technique is needed. The biliary strictures still remain a challenge for the pancreato-biliary endoscopist due to the low sensitivity of the visually guided sampling.

**eP365**  **ENDOSCOPIC ULTRASOUND- GUIDED FINE- NEEDLE BIOPSY USING A NEWLY DESIGNED NEEDLE WITH MULTI-BLADE THREE-PRONG TIP: INITIAL EXPERIENCE**

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**DOI** 10.1055/s-0042-1745218

**Aims** To assess the performance of EUS-FNB using a new needle with multi-blade three-prong tip for the histologic diagnosis of lesions, accessible for endoscopic ultrasound-guided biopsy.

**Methods** Data was collected retrospectively from April 2021 to October 2021. All the patients underwent endoscopic ultrasound with a linear scope (Fujifilm EG-580UT) and fine needle biopsy using a new needle with multi-blade three-prong tip - 22G Trident (Micro-Tech Endoscopy).

**Results** Forty nine patients were included. Pancreatic ductal adenocarcinoma was proved in 25. Two patients with pancreatic lesions had false negative his-
Aims The aim of this long-term prospective study was to compare the efficacy and safety of PS vs LAMS.

Methods Consecutive patients undergoing EUS-guided drainage between January 2010 and December 2020 were included in a tertiary centre. PS and LAMS were compared regarding technical- and clinical success-rate, adverse event-rate (AE) and the need for re-interventions. Fischer's test, Kaplan-Meier curves and log-rank tests were performed to investigate the clinical efficacy of the two groups.

Results

<table>
<thead>
<tr>
<th>Clinical Outcome</th>
<th>Plastic Stent (n = 53)</th>
<th>LAMS (n = 36)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Success</td>
<td>53 (100 %)</td>
<td>36 (100 %)</td>
<td>1.0</td>
</tr>
<tr>
<td>Clinical success – PFC resolution on CT (n)</td>
<td>31</td>
<td>20</td>
<td>0.94</td>
</tr>
<tr>
<td>Overall adverse Events</td>
<td>7</td>
<td>2</td>
<td>0.24</td>
</tr>
<tr>
<td>Hospital Stay days (median/IQR)</td>
<td>13/10</td>
<td>12/20</td>
<td>0.65</td>
</tr>
</tbody>
</table>

A total of 89 patients (median age, 56 years) with PFCs underwent EUS-guided transmural drainage (PS: n = 53; LAMS: n = 36) due to pseudocyst (n = 52) or WON (Walled-of necrosis, n = 37). Both PS and LAMS had high technical success (> 100 %) and comparable AE and clinical success-rate. Need for re-endoscopy due to treatment failure was 14/53 (26.4 %) in PS and 14/36 (38.8 %) in LAMS, (p = 0.158). No significant difference was found in subgroup analysis of WON and pseudocyst. The 20mm LAMS resulted in less need for rehospitalization (13 % vs 43 %, p = 0.05) compared with 15mm LAMS.
Conclusions This large, prospective study on EUS-guided drainage of peripancreatic fluid collections showed equivalent safety, technical success, and clinical success comparing plastic stents and LAMS. The larger diameter of LAMS (20mm) however, seems to have a significant better clinical outcome compared with the standard diameter LAMS (15 mm).

ep368 CAN AMLODIPINE AFFECT THE SEVERITY OF PEP?
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Aims PEP has been reported at a rate of 1-15 % in different studies. The risk of PEP varies depending on the patient, operator and many factors related to the procedure. The effectiveness of pancreatic stenting and NSADs has been proven to prevent PEP from occurring. Treatments that reduce the sphincter of Oddi pressure—except nitroglycerin—are not thought to reduce the risk of PEP. Amlodipine, a calcium channel blocker, has been shown not to be beneficial in PEP. In our study, we investigated the contribution of amlodipine, a different class of calcium channel blocker, to the severity of PEP, length of hospital stay, and mortality.
Methods The study included 169 patients who developed PEP out of 1247 ERCP cases performed in our center between February 2019 and March 2021. Among these patients, 10 patients who were started on amlodipine 24-72 hours before the procedure and 10 patients who were not given amlodipine were compared in terms of PEP severity, hospital stay, and mortality. Twelve patients who regularly used amlodipine were excluded from the study.

Results

| Table 1 |
|---------------------------------|----------------|----------------|
| **Control Group** | **Amlodipine Group** | **p value** |
| **Age (mean)/ Gender (Male-Female)** | 62.70/ 7-3 | 63.30/ 7-3 |
| **PEP Severity (mild)/ moderate/severe)** | 10/0/0 | 10/0/0 | >0.05 |
| **Hospital Stay (mean days)** | 6,30 | 5,40 | >0.05 |
| **Mortality** | 0 | 0 | >0.05 |

Conclusions The contribution of amlodipine in terms of PEP severity, length of hospital stay and mortality could not be demonstrated. Studies involving more patients should be conducted in terms of its contribution to the prevention of PEP development.

ep369 ENDOSCOPIC ULTRASOUND FINE-NEEDLE ASPIRATION OF Pancreatic Cystic Lesions, A SINGLE-CENTER EXPERIENCE, AND COMPARISON WITH RESECTION HISTOLOGY
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Aims Pancreatic cystic lesions (PCLs) are frequent and some have malignant potential. The decision on performing EUS-FNA and/or surgery remains challenging. We aimed to evaluate the feasibility and diagnostic yield of EUS-FNA, and compare results of EUS-FNA with the resection histology.

Methods A retrospective study in patients undergoing EUS-FNA for PCLs. We assessed morphological risk features: solid component, mural nodule > 5 mm, dilated pancreatic duct > 5mm, lesion size > 4 cm. The mucinous content was defined macroscopically by positive string test/thick mucin and/or by high CEA (> 100 ng/ml) or low glucose (< 2.8 mmol/l). The aspirated material was smeared for cytology.

Results We included 30 patients, an M/F ratio of 20/10, with a median age of 66.5. Seventeen patients had one or more risk features, 13 had none. The macroscopic evaluation of fluid was reported in 23 (76.6 %) patients, it was positive in 14 (Group M) and negative in 9 patients (Group N). The fluid analysis showed a mucinous lesion in all patients in group M, and 4 (44.4 %) in Group N. Ten patients underwent surgery. The sensitivity and specificity of at least one morphological risk feature for diagnosing high-grade neoplasia was 100 % and 42.8 %, for the fluid suggestive of a mucinous lesion 71.4 % and 66.6 %, and cytology showing high-grade neoplasia 0 % and 66.6 %, respectively.

Conclusions Our experience supports safe follow-up in patients without morphological risk features, and EUS-FNA in lesions with a morphological risk feature. Due to the high risk of malignancy, mucinous lesions with a risk feature should be considered for surgery.

ep370 STENT-IN-STENT BI-LOBAR BILIARY STENTING IN MALIGNANT HILAR OBSTRUCTION: EXPERIENCE AND OUTCOMES
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Aims Endoscopic management of hilar malignant strictures is challenging with a high risk of complications. Traditionally, a percutaneous approach has been preferred but endoscopic bilobar drainage either by stent-in-stent or stent-by-stent placement of metal stents can be more beneficial to patients in experienced centres. We aimed to determine the clinical outcomes of bilobar stent-in-stent placement using large cell D-type (LCD, Taewoong Niti-S) stents in patients with malignant hilar strictures.

Methods Retrospective data was collected for patients who underwent stent in stent placement from April 2020 to September 2021 at St Thomas’ Hospital. Results 13 patients had bi-lobar LCD stent placement. Demographics are as shown in Table 1. 9 patients had previous endoscopic plastic stent placement. Technical success was achieved in 11 patients (85 %) and clinical response was seen in 11 (85 %). 2 patients required percutaneous intervention following endoscopy but did not achieve clinical response due to significant burden of liver metastases. 1 patient had stent dysfunction due to tumour overgrowth and was treated successfully with radiofrequency ablation. Post procedure complications noted in 2 patients (1 cholangitis, 1 cholecystitis). 9 patients died after a median follow up of 12 weeks (range 2-50 weeks).

| Table 1 Demographics. |
|-----------------------|----------------|----------------|
| **M/F** | 7:6 |
| **Median Age** | 64 years |
| **Bilirubin pre-procedure (Mean)** | 147 μmol/L (range 19-544) |
| **Cancer type** | Cholangiocarcinoma = 9, HCC = 1, Gall bladder = 1, Colonrectal = 1, Lung = 1 |
| **Bismuth classification** | I = 1, II = 2, III = 6, IV = 4 |
Conclusions Bilobar stent-in-stent placement had good technical and clinical success in our unit. This is a challenging procedure that requires careful planning with imaging and prior multidisciplinary discussion. Selection of appropriate cases allows for further chemotherapy and extended life expectancy without jaundice for patients.

eP371 DIAGNOSTIC YIELD OF ENDOSCOPIC ULTRASOUND IN THE EVALUATION OF UNEXPLAINED COMMON BILE DUCT DILATATION ON CROSS-SECTIONAL IMAGING

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DOI 10.1055/s-0042-1745224

Aims evaluate the diagnostic performance of EUS unexplained dilated CBD on cross-sectional imaging (CSI).

Methods a retrospective study over 4 years included all patients with unexplained dilated CBD on CSI (CCT, MRCP); patients with congenital dilatation of CBD were excluded.

Results A total of 56 patients were included with a mean age of 59.34 years old, 85.7% were female and 22 patients (39.28%) had a history of cholecystectomy. These patients presented with: acute pancreatitis in 22 cases, abdominal pain in 17, clinical and biological cholestatis in 7, acute cholangitis in 5 and in one case the diagnosis was fortuitous on CT. Laboratory tests were abnormal in 50% of cases with bilirubin value above the upper limit in 19 cases. MRCP was performed in 19 cases and enhanced abdominal CT scan in 17 cases. The mean CBD diameter was 11.82mm on CSI and 10.8mm on EUS. EUS revealed an obstacle in 25 cases (44.46%), 57.14% of them had abnormal liver function tests. No obstacle was found in 24 cases (42.85%), 13 of them had normal liver enzymes, and a normal CBD diameter was noted in 7 cases. CBD stones was the most common finding in 15 cases (60%), followed by suspicion of tissue content in 3 (12%), bilo-pancreatic maljunction in 2 and in 1 case of each: cephalic pancreatic mass, biliary stricture with underlying chronic pancreatitis, mass in CBD, cystic dilatation and a compressive peripancreatic diverticulum.

Conclusions In 46% of cases EUS allowed to establish the diagnosis and in 57% of cases it was lithiasis.

eP372 FULLY-COVERED SELF-EXPANDABLE METAL STENTS (FCSEMS) AS RESCUE TREATMENT FOR POST-SPHINCTEROTOMY BLEEDING AND BILE DUCT PERFORATION. A CASE SERIES FROM A GREEK REFERRAL CENTRE

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Institute 1 Naval Hospital of Athens, Gastroenterology Unit, Athens, Greece

Aims FCSEMS have been used as a ‘rescue treatment’ for several urgent biliary tract conditions. This study evaluated the efficacy, safety, and duration of stenting with FCSEMS in extremely high-risk conditions: post-sphincterotomy bleeding and bile duct perforations.

Methods This is a retrospective study including patients who were treated with FCSEMS placement for post or during ERCP complications: uncontrolled post-sphincterotomy bleeding where hemostasis methods were unsuccessful and perforation after balloon dilation or sphincterotomy. The study was conducted in a Greek referral centre from January 2017 to March 2021 and reported stenting duration, safety of FCSEMS removal, clinical efficacy, complications, and long-term outcome.

Results A total of 1706 ERCP procedures were done during the study period. 14 (0.8%) patients (9 male; mean age 60 ± 4 years) underwent FCSEMS placement, 5 patients due to post-sphincterotomy bleeding and 9 due to perforation (8 after balloon dilation and 2 after sphincterotomy). Median duration of stenting was 19 (14–21) days for the patients with bleeding and 40 (38–60) days for those with perforation. Complete resolution of the complication was achieved in all patients. There were no complications regarding the FCSEMS installation and removal. No recurrence of bleeding or delayed perforation was observed during follow-up (4–12 weeks).

Conclusions In our study, temporary placement of FCSEMS was a very effective rescue treatment for difficult-to-control post-sphincterotomy bleeding and perforation. Duration of stenting was different for each type of condition. The short-term stenting was associated with the absence of early or late complications.

eP373V LATE PRESENTATION OF POST ROAD TRAFFIC ACCIDENT WITH COMPLETE COMMON BILE DUCT TRANSECTION MANAGED BY PTBD GUIDED RENDEVOUS BILIARY DRAINAGE

Authors Kulkarni A.1, Kulkarni V.1, Kulkarni M.1, Deshpande A.1
Institute 1 Antrag Hospital, Gastroenterology, Kolhapur, India

Post RTA total transection of CBD is a difficult scenario to managed especially when presented late. this leads to healing by fibrosis with no obvious communication with distal CBD leading to persistant bile leak which increases morbidity and mortality. We managed the case with percutaneous transhepatic approach to gain access to the proximal bile duct followed by creating a false passage by stiff end of a terumo guidewire into the duodenum through the papilla and completing procedure by ERC.She was followed up after 2 months and plastic stent was replaced by retrievable self expandable metal stent.

eP374V ENDOSCOPIC ULTRASOUND(EUS) GUIDED SPLENIC ARTERY PSEUDOANEURYSM COILING IN CHRONIC CALCIFIC PANCREATITIS WITH HEMOSUCCUS PANCREATICUS

Authors Kulkarni A.1, Kulkarni V.1, Kulkarni M.1, Deshpande A.1
Aims: Hemosuccus pancreaticus is a serious complication of chronic calcific pancreatitis. Current management is angiographic coil embolization of the pseudoaneurysm. We present case of hemosuccus pancreaticus managed successfully by EUS guided coil embolization followed by glue injection. A 40-year-old male, known case of chronic calcific pancreatitis presented with melena and required transfusions. Upper Gastroendoscopy showed blood oozing through the papilla. Triple-phase CT showed CCP, with 1.2 cm pseudoaneurysm arising from splenic artery. On EUS, pseudoaneurysm was identified and punctured by 19G needle, 10 mm x 14 cm coil was inserted followed by 0.5 cc of N-butylnaocrylate glue. Complete obliteration of pseudoaneurysm was confirmed on Doppler. Post procedure patient was hemodynamically stable.

Conclusion: EUS guided coil embolization of bleeding pseudoaneurysm with hemosuccus pancreaticus is a novel and effective modality of treatment.

A 61-year-old female with metastatic neuroendocrine carcinoma presented with jaundice. Abdominal MRI/MRCP showed extensive liver metastases and biliary obstruction causing severe left intrahepatic ductal dilatation. ERCP failed to cannulate the targeted ducts. Under EUS guidance the left intrahepatic was punctured with a 19-g needle and a cholangiogram was obtained. The track was dilated with a 5-F catheter followed by a 6 mm Hurricane balloon. During Viabil stent (10 mm x 10 cm) deployment, the ePTFE string broke, preventing deployment.

A pediatric endoscope was advanced on the side of the echoendoscope. The string was pulled using forceps resulting in full stent deployment.

eP377V SAME SESSION DIAGNOSTIC EUS AND ERCP FOLLOWING GATE PROCEDURE (GASTRIC ACCESS TEMPORARY FOR ENDOscopy) IN A PATIENT WITH OBSTRUCTIVE JAUNDICE AND GASTRIC BYPASS ANATOMY

Author Lajin M.1
Institute 1 SHARP Health Care, Gastroenterology, San Diego, United States

A 64-year-old female with a history of gastric bypass presented with jaundice and a 40-pound weight loss. MRCP showed cholelithiasis without choledocholithiasis, both CBD and PD were dilated. CT with contrast showed no pancreatic mass. Using EUS, the gastric remnant was distended with contrast. A 2 cm transgastric LAMS was deployed. A linear echoendoscope was advanced to the duodenum. There was no pancreatic or ampullary neoplasm, instead, a CBD stone was found. A duodenoscope was then advanced through LAMS to the duodenum. Biliary sphincterotomy was followed by stone extraction. Her LFTs normalized and her LAMS was removed after 4 weeks.

A 73-year-old male presented with jaundice. CT showed a dilated CBD and PD. ERCP failed to cannulate the targeted ducts. Under EUS guidance the left intrahepatic was punctured with a 19-g needle and a cholangiogram was obtained. The track was dilated with a 5-F catheter followed by a 6 mm Hurricane balloon. During Viabil stent (10 mm x 10 cm) deployment, the ePTFE string broke, preventing deployment.

A pediatric endoscope was advanced on the side of the echoendoscope. The string was pulled using forceps resulting in full stent deployment.

A 70-year-old male presented with stage 4 cholangiocarcinoma resulting in hilar obstruction. After a failed ERCP, EUS-guided hepaticogastrostomy was attempted. The Gore stent catheter could not be advanced across the hepaticogastrostomy track. During an attempt to place a PD stent across the track, the wire moved downstream and was manipulated through the papilla. The Echoendoscope was removed and a gastroscope pulled the “exiting” wire end to the mouth. The gastroscope was advanced over the “entering” wire end. The hepaticogastrostomy track was dilated and 2 overlapping Gore stents were deployed. Two biliary stents were then deployed to the right intrahepatic ducts.

eP378V A SEROUS CYSTADENOMA DIAGNOSED USING A CONFOCAL LASER ENDMICROSCOPY (CLE)

Author Lajin M.1
Institute 1 SHARP Health Care, Gastroenterology, San Diego, United States

A 31-year-old female was referred for evaluation of a pancreatic cyst. She is asymptomatic and has never had pancreatitis. On EUS a 1.8 cm pancreatic cyst was found at the neck of the pancreas with septations. No mural nodules or solid components. No communication with the pancreatic duct which was not dilated. The pancreatic parenchyma was normal. A Confocal Laser Endomicroscopy (CLE) probe was passed through a 19-g needle. The cyst was punctured and the CLE showed a Superficial Vascular Network (SVN) which is specific for a serous cystadenoma. The patient was reassured and no further follow-up was needed.

A 7-year-old male presented with stage 4 cholangiocarcinoma resulting in hilar obstruction. After a failed ERCP, EUS-guided hepaticogastrostomy was attempted. The Gore stent catheter could not be advanced across the hepaticogastrostomy track. During an attempt to place a PD stent across the track, the wire moved downstream and was manipulated through the papilla. The Echoendoscope was removed and a gastroscope pulled the “exiting” wire end to the mouth. The gastroscope was advanced over the “entering” wire end. The hepaticogastrostomy track was dilated and 2 overlapping Gore stents were deployed. Two biliary stents were then deployed to the right intrahepatic ducts.

eP380V EUS-GUIDED CHOLEDOCHODUODENOSTOMY TO TREAT BILARY OBSTRUCTION IN A PATIENT WITH LOCALLY ADVANCED PANCREATIC CANCER

Author Lajin M.1
Institute 1 SHARP Health Care, Gastroenterology, San Diego, United States

A 73-year-old male presented with jaundice. CT showed a dilated CBD and PD. EUS revealed a 3 cm mass invading the portal vein. FNB revealed adenocarcinoma. ERCP failed to cannulate the CBD. Under EUS guidance the CBD was punctured from the duodenal bulb and a cholangiogram was obtained. Following that, a wire was passed. Over the wire,
a hot LAMS (1 cm x 1 cm) was deployed. The stent was dilated with a balloon and a double pigtail stent was deployed through LAMS. His jaundice resolved and he did not require any further intervention until he passed away a year later.

**eP381** SELF-EXPANDABLE METAL STENT (SEMS) VERSUS LUMEN-APPOSING METAL STENT (LAMS) FOR EUS-DRAINAGE OF PANCREATIC FLUID COLLECTIONS: RANDOMIZED CLINICAL TRIAL (RCT)

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**Aims** Endoscopic Ultrasound (EUS)–guided drainage is considered the gold standard for the treatment of encapsulated pancreatic collections (EPCs) – pseudocysts and walled-off necrosis (WON) –, presenting the same clinical efficacy as surgical drainage, but fewer complications and less morbidity. Several types of stents have been developed and used for this purpose, however, there is no strong evidence to support which is the best option. The aim of this RCT is to compare the efficacy and safety of the SEMS versus LAMS for EUS-guided drainage of EPCs.

**Methods** This is a Randomized Clinical Trial phase IIIB comparing SEMS versus LAMS regarding efficacy and safety in EUS-guided drainage of EPCs. Technical success, clinical success, radiological success, adverse events, intra-procedure intercurrences, and procedure time were evaluated. A sample size of 42 patients was determined.

**Results** There was no difference in technical success, clinical success, radiological success, adverse events, or stent migration rate between the two groups. The procedure time was longer in the LAMS group (mean time 43.81 ± 6.55 min vs 24.43 ± 1.99 min, p = 0.001). There were more intra-procedure intercurrences in the LAMS (5) than in the SEMS group (0) (p = 0.048).

**Conclusions** SEMS and LAMS have similar technical success, clinical success, radiological success, and adverse events. However, the SEMS had a shorter procedure time and fewer intra-procedure intercurrences. The choice of which stent is used for EUS-drainage of EPCs must consider the availability and expertise of the service. Both SEMS and LAMS are possible options with similar clinical efficacy and safety profile.

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**Fig. 1**

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**eP382** ENDOSCOPIC ULTRASOUND FINE-NEEDLE BIOPSY VERSUS FINE-NEEDLE ASPIRATION FOR TISSUE SAMPLING OF LYMPH NODES: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**Aims** There is scarce evidence on the comparison between endoscopic ultrasound (EUS) fine-needle biopsy (FNB) and fine-needle aspiration (FNA) of lymph nodes (LNs). Aim of this meta-analysis was to compare the diagnostic performance of these two approaches.

**Methods** We searched the PubMed/Medline and Embase database through August 2021 and identified 9 studies, of which 4 randomized controlled trials. Primary outcome was diagnostic accuracy. Secondary outcomes were diagnostic sensitivity, specificity, sample adequacy, optimal histological core procurement, number of passes, and adverse events. We performed pairwise meta-analysis through a random effects model and expressed results as odds ratio (OR) or mean difference along with 95% confidence interval (CI).

**Results** Median age was 67 years and most patients were male in both groups. Diagnostic accuracy was not different between the two approaches (OR 1.31, 95% CI 0.81-2.10; p = 0.27). FNB resulted significantly superior to FNA when performed with newer end-cutting needles (OR 1.87, 1.17-3; p = 0.009) and in abdominal LNs (OR 2.48, 1.52-4.05; p < 0.001). No difference in terms of sample adequacy was observed (OR 1.40, 0.46-4.26; p = 0.55) whereas histological core procurement and diagnostic sensitivity were significantly superior with EUS-FNB (OR 6.15, 1.51-25.07 and OR 1.87, 1.27-2.74, respectively). Number of needle passes needed to obtain diagnostic samples was significantly inferior in the FNB group (mean difference -0.54, -0.97 to -0.12; p = 0.01). No procedure-related adverse events were observed.

**Conclusions** Although EUS-FNB could not still be preferred to standard EUS-FNA, newer FNB represent a promising diagnostic tool for LN sampling.

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**eP383V** ANTEGRADE PANCREATOGRAPHY VIA PANCREATO-GASTROSTOMY: GUIDEWIRE FRAGMENT EXTRACTION AND TOTAL STENOSIS CONFIRMATION

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**Institutes** 1 Bellvitge University Hospital, Interventional Endoscopy Unit, Barcelona, Spain; 2 University Hospital Mutua Terrassa, Interventional Endoscopy Unit, Terrassa, Spain

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**Results** There was no difference in technical success, clinical success, radiological success, adverse events, or stent migration rate between the two groups. The procedure time was longer in the LAMS group (mean time 43.81 ± 6.55 min vs 24.43 ± 1.99 min, p = 0.001). There were more intra-procedure intercurrences in the LAMS (5) than in the SEMS group (0) (p = 0.048).

**Conclusions** SEMS and LAMS have similar technical success, clinical success, radiological success, and adverse events. However, the SEMS had a shorter procedure time and fewer intra-procedure intercurrences. The choice of which stent is used for EUS-drainage of EPCs must consider the availability and expertise of the service. Both SEMS and LAMS are possible options with similar clinical efficacy and safety profile.

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**Fig. 1**

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Endoscopy 2022; 54: S1–S303 | © 2022. European Society of Gastrointestinal Endoscopy. All rights reserved.
A 52yo man with chronic pancreatitis of unknown origin, with neck stenosis and pancreatic ductal lithiasis. After failure of transpapillary cannulation, a Rendezvous technique is realized. After several tries without success, fragmentation of intrapancreatic guidewire occurs. A transmural drainage (USE-guided pancreatic-gastrostomy) with 2 plastic stents is realized. Then, an antegrade pancreatoscopy via pancreato-gastrostomy (SpyGlass-DSII) is made. Main pancreatic duct dilation, with no lithiasis but with several parenchymatous calcifications that cause total ductal stenosis. Guidewire fragment identification and retrieval with spy-basket. Another Rendezvous for a transpapillary conversion is made, without success. A third coaxial plastic stent is placed, optimizing the transmural pancreatic drainage.

**eP384 NEW STEP APPROACH FOR TREATMENT OF LARGE SIZE INFECTED Pancreatic NECROSIS: PERCUTANEOUS ENDOSCOPIC NECROSECTOMY FOLLOWED BY TRANSLUMINAL DRAINAGE/NECROSECTOMY**

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**Aims** We report a case series of a new endoscopic approach to treat infected pancreatic necrosis (IPN).

**Methods** Consecutive patients with large size IPN from stomach into paracolic gutters or the pelvis were prospectively studied from April 2018 to August 2021.

Treatment protocol was radiological percutaneous drainage as first step followed by fully covered metal stent (SEMS) placement in the track of the catheter under fluoroscopic guidance to dilate the track. Percutaneous endoscopic necrosectomy (PEN) was performed 2-4 days later using a flexible endoscope through the percutaneous tract under conscious sedation. About 2-4 weeks later when, a matured sac was visible, EUS-guided endoscopic transmural drainage (ETD) with LAMS was performed under general anesthesia.

Control of sepsis with resolution of collection(s) was primary outcome measure.

**Results** A total of 14 patients (mean age 56 ± 12, 8 males) were included, IPN median size of 18 cm, PEN and ETD timing (after 18 days and 36 days in median).

SEMSs in PEN were esophageal type 8 cm (8 cases) or 12 cm (6 cases) in length and LAMS in ETD were HotAxios (8 cases), HotSpaxus (3 cases) and NagiStent (3 cases). A median of 2 endoscopic sessions in PEN and ETD were necessary to achieve resolution in all patients, in a median time of 3 weeks. Severe adverse events were reported in 3 cases (2 GI bleeding and 1 case of over inflation).

**Conclusions** Step up percutaneous and transmural endoscopic necrosectomy therapy is an effective strategy for large size IPN with combined central and peripheral necrosis.

**eP385V SEQUENTIAL INSERTION OF TWO PLASTIC STENTS (STENT-PUSHING-STENT TECHNIQUE) WITH A SINGLE GUIDEWIRE DURING DOUBLE-BALLOON-ERCP IN ROUX-EN-Y HEPATICOJEJUNOSTOMY AFTER LIVER TRANSPLANT**

Authors Martínez-Alcalá A.1, Mönkemüller K.1
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A 45-year-old patient who had undergone liver transplant for cirrhosis due to primary sclerosing cholangitis presented with jaundice and cholestasis. Because of PSC the liver transplant was attached to a jejunal loop (hepaticojejunostomy). Therefore, ERCP had to be performed using double-balloon-enteroscopy technique. During DBE-ERCP a tight hepaticejunostomy stricture typa A1 according to Mönkemüller-Jovanovic classification was found and dilated with a CRE-balloon. The two plastic stents were placed immediately, one-after-the-other, using a single 0.035-inch 450 cm long biliary wire (stent-pushing-stent technique). This video shows the technique in detail, which shortens procedure time and is useful when using device-aided ERCP methods.

**eP386V USEFULNESS OF SPYBITE™ BIOPSY FORCEPS FOR GUIDEWIRE PASSAGE IN CRITICAL BILARY ANASTOMOSIS STRICTURES IN PATIENTS WITH LIVER TRANSPLANTATION**

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We present a new technique that can help guidewire passage in cases of complete or significant stenosis. Using direct visualization with the Spyglass and the Spybite™ biopsy forceps, repeated biopsies of the anastomosis are taken until the pathway is big enough for the passage of the guidewire. We present 3 cases of patients with liver transplantation and anastomosis stenosis: 1 month after transplantation in 2 cases and one year after in another one, in which this technique allowed us to advance the guidewire through the anastomosis and complete the procedure successfully.

**eP387 ENDOSCOPIC ULTRASOUND-GUIDED RADIOFREQUENCY ABLATION FOR Pancreatic INSULINOMA: EXPERIENCE IN TWO TERTIARY CENTERS**

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**Aims** Insulinoma is the most frequent functional neuroendocrine tumor of the pancreas and preserving surgery its treatment of choice. Endoscopic ultrasound-guided radiofrequency ablation (EUS-RFA) is a novel and promising technique that induces tissue necrosis of localized lesions. This study presents a preliminary clinical experience in treating pancreatic insulinomas <2 cm by EUS-RFA, focusing on safety and efficacy.

**Methods** Clinical course of patients with pancreatic insulinoma treated by EUS-RFA at two tertiary referral centers was analyzed.

**Results** Between November 2017 and December 2020, seven patients were included (6/7 female; mean age 66 years). Lesion size ranged between 8 and 20 mm. EUS-RFA was feasible in all patients (7/7) with immediate hypoglycemia relief after only one single treatment session. 6/7 achieved complete response by cross sectional imaging and remained asymptomatic (median follow up 21 months; range 3–38). Three patients had minor complications. One elderly patient developed a large retrogastric collection 15 days after treatment and died one month after EUS-RFA.

**Conclusions** Management of pancreatic NETs <2 cm by EUS-RFA seems effective with an acceptable safety profile. Yet, further evidence focusing on long term survival and recurrence is needed.
eP388V  COMBINED ENDOSCOPIC AND SURGICAL MANAGEMENT OF A RIGHT INTRAHEPATIC BILE DUCT INJURY DURING LAPAROSCOPIC CHOLECYSTECTOMY

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Institutes  1 Hôpitaux Universitaires de Strasbourg, Gastroenterology and Hepatology, Strasbourg, France; 2 IHU de Strasbourg, Digestive endoscopy unit, Strasbourg, France; 3 University of Strasbourg, Inserm U1110, Institute for Viral and Liver Diseases, LabEx HepSYS, Strasbourg, France; 4 Hôpitaux Universitaires de Strasbourg, Visceral and Digestive Surgery, Strasbourg, France; 5 IHU de Strasbourg, Digestive and Endocrine Surgery, Strasbourg, France; 6 Hôpitaux Universitaires de Strasbourg, Hepatobiliary and Pancreatic Surgery, Strasbourg, France; 7 IHU de Strasbourg, Hepatobiliary and Pancreatic Surgery, Strasbourg, France

We report the case of a 70-year-old female who underwent laparoscopic cholecystectomy following cholecystitis. Intraoperative opacification of biliary tract showed a section of the right posterior bile duct. At the same time, an ERCP was performed. The guidewire was introduced inside the right posterior bile duct laparoscopically. A 7 French-15 cm plastic biliary stent was then placed between the diagnostic techniques are shown in Table 1.

eP389  DIAGNOSTIC ACCURACY OF DIGITAL SINGLE-OPERATOR CHOLANGIOSCOPY FOR INDETERMINATE BILIARY STRICTURES: AN ITALIAN SINGLE-CENTER EXPERIENCE

Authors  Milluzzo S.M.1,2, Tringali A.1, Perri V.1, Familiari P.1, Boskoski I.1, Ricci R.1, Costamagna G.1
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Aims  A precise characterization of indeterminate biliary strictures (IDBS) still represents a major challenge. Digital single-operator cholangioscopy (DSOC) could potentially overcome limits of conventional biopsy and brushing sampling. The aim was to analyze the diagnostic accuracy of visual evaluation and DSOC guided biopsies compared to previous sampling techniques.

Methods  Consecutive patients who performed DSOC-guided biopsy after conventional sampling techniques for IDBS during a six-year period were retrospectively evaluated. Final diagnosis was based on histological evaluation of the surgical specimen if available or a clinical follow-up of at least 6 months.

Results  Fourteen patients (M:F = 5:9) with a median age of 64 years (range 53-76) were enrolled. Stricture was located at common bile duct in 4 patients (21.4%), common hepatic duct in 4 (28.6%), right hepatic duct in one (7.1%), and hilum in 6 (42.8%). After DSOC, strictures were excluded and/or location changed in 3 patients (additional yield of 21.4%). Intraductal DSOC-guided biopsies were technically successful in all cases, with an adequacy of 92.8% (13/14). No adverse events were recorded. Final diagnosis was benign biliary scar in three cases, primary sclerosing cholangitis in one, Mirizzi’s Syndrome in one and cholangiocarcinoma in the remaining cases. Results of the comparison between the diagnostic techniques are shown in Table 1.

Table 1  Comparison between diagnostic techniques for indeterminate biliary strictures.

<table>
<thead>
<tr>
<th></th>
<th>Conventional sampling</th>
<th>DSOC-guided biopsy</th>
<th>Visual finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>44.4 %</td>
<td>44.4 %</td>
<td>88.9 %</td>
</tr>
<tr>
<td>Specificity</td>
<td>80 %</td>
<td>100 %</td>
<td>80 %</td>
</tr>
<tr>
<td>Positive Predictive Value</td>
<td>80 %</td>
<td>100 %</td>
<td>88.9 %</td>
</tr>
<tr>
<td>Negative Predictive Value</td>
<td>44.4 %</td>
<td>50 %</td>
<td>80 %</td>
</tr>
<tr>
<td>Accuracy</td>
<td>57.1 %</td>
<td>64.3 %</td>
<td>64.3 %</td>
</tr>
</tbody>
</table>

Conclusions  Combining the high sensitivity of visual finding with the specificity of direct biopsy sampling, DSOC can improve diagnostic accuracy for IDBS.

eP390  THE BURDEN OF CHOLANGITIS IN PATIENTS WITH CHOLEDOCOLITHIASIS IN TERMS OF POST-ERCP PANCREATITIS AND PROCEDURE TIME

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Aims  Post-ERCP pancreatitis (PEP) is a worrisome and common adverse event of ERCP and is thought to have a multifactorial mechanism. We analyzed if acute cholangitis is a risk factor for PEP and if the procedure time and time to ERCP (TtE) differ in patients with or without acute cholangitis.

Methods  We performed a retrospective study that included patients with cholecodolithiasis. The indication for ERCP was given by the presence of biliary obstruction or acute cholangitis (classified according to Tokyo 2018 criteria). The development of PEP, time to ERCP (TtE) and procedure duration were assessed between patients with acute cholangitis in comparison with those without.

Results  We analyzed 602 consecutive patients (mean age 65.7 ± 15.2 years, 45.7% males). In 61.1% (368/602) the obstruction was caused by choledocholithiasis. The AC subgroup, 14.1% (20/142) patients developed PEP, while 9.3% (21/226) of those without developed PEP (p = 0.2099). Mean procedure time (minutes) was 45.7 ± 25.2 in the AC subgroup, 14.1% (20/142) patients developed PEP, while 9.3% (21/226) of those without developed PEP (p = 0.2099). Mean procedure time (minutes) was 33 ± 12.9 in AC group vs. 31.09 ± 14.8 in non-AC (p = 0.1861), while TtE was lower in the AC group 45.5 ± 39.8 hours vs. 55.3 ± 42.4 hours (p = 0.0278).

Conclusions  PEP was not influenced by acute cholangitis in our cohort of patients with cholecodolithiasis.

eP391  TRANSPANCREATIC BILIARY SPHINCTEROTOMY (TPBS), THE EXPERIENCE OF A GREEK ERCP CENTER

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Aims  Transpancreatic biliary sphincterotomy (TPBS) is an advanced cannulation method for accessing common bile duct (CBD) in endoscopic retrograde cholangiopancreatography (ERCP) when CBD cannulation is difficult according
to the European Society of Gastrointestinal Endoscopy (ESGE) guidelines. The effectiveness of this procedure is still unclear. We studied the efficacy of this technique, the possible complications, and the demographic characteristics of our patients.

Methods Our study included 18 patients that underwent ERCP with one wire-guided cannulation (WGC) performed in Ioannina University Hospital between July and November of 2021 (Among 300 ERCPs). We studied the demographic characteristics, their indications, the success rate of catheterization, and the prevalence of side effects.

Results 18 patients of which 55% (n = 10) were women and 45% (n = 8) men, underwent TPBS-WGC because of difficult biliary access. In terms of indication, 27.7% (n = 5) was attributed to pancreatic tumor/cancer, 16.6% (n = 3) cholangiocarcinoma, 38.8% (n = 7) CBD stone and 16.6% (n = 3) biliary pancreatitis. Deep bile duct access was achieved in all patients (100%) with this technique. Post-ERCP mild pancreatitis (PEP) developed in one patient (5.6%) and post-ERCP bleeding presented in one patient (5.6%) who was receiving antiplatelet agent. 66.6% (n = 12) underwent biliary stent placement and 100% (n = 18) pancreatic stent placement for PEP prophylaxis.

Conclusions TPBS is a useful rescue method in cases of difficult cannulation, accompanied by an acceptable complication rate. Compared to other cannulation techniques, TPBS is a feasible, safe, and relatively inexpensive process. However, no follow-up studies are available for TPBS. Therefore, such studies are needed for its full evaluation.

eP392  CONTRIBUTION OF MACRODILATATION OF THE ODODI SPHINCTER IN THE TREATMENT OF LARGE CHOLEDOCIAL STONES

Authors Mrabti S.1, Addajou T.1, Benhamdane A.1, Sair A.1, Guelleh M.O.1, Touibi A.1, Radouane T.1, Rohksi S.1, Iloghmane H.1, Sentissi S.1, Berrida R.1, El Koti I.1, Rouibah F.1, Benkiran E.1, Seddik H.1

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Aims The objective is to evaluate the effectiveness of sphincteroplasty and to analyze the factors associated with the success of this technique in patients with large bile duct stones.

Methods Descriptive and analytical retrospective study between January 2008 and August 2021, including 51 patients who presented with a large obstructive stone measuring more than 15mm and whose treatment required the use of sphincteroplasty. The success rate was defined by the clearance from the main bile duct. Statistical analyst made by SPSS software version 24.0. Factors associated with the success of endoscopic treatment were done using logistic regression.

Results 51 patients were included, the mean age was 65.37 ± 17.46 years [26-95] with a female predominance in 56.9% (n = 29). 31.4% of patients have already been cholecystectomized. Five patients had acute lithiasis cholangitis and one patient had acute lithiasis pancreatitis. The success rate was 96.1%. The early complication rate was zero. In univariate and multivariate analysis, the possible complications, and the demographic characteristics of our patients.

Conclusions Sphincteroplasty is an effective technique with low morbidity for the endoscopic extraction of large bile duct stones. In our study, none of the factors studied appeared to be associated with the success or failure of macrodilatation of the sphincter of oddi.

eP393  RISK OF POST-ERCP PANCREATITIS AFTER DOUBLE-GUIDEWIRE TECHNIQUE FOR DIFFICULT BILIARY CANNULATION

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Aims Although double-guidewire technique (DGT) is useful for difficult biliary cannulation, this technique has the potential risk of post-ERCP pancreatitis (PEP). The objective of this study was to clarify the incidence and risk factors of PEP after DGT for difficult biliary cannulation.

Methods A total of 71 patients with difficult biliary cannulation who underwent DGT from April 2018 to November 2021 were retrospectively identified, and clinical data were collected.

Results The incidence of PEP in patients who had undergone DGT was 19.7% (14/71). The severity of PEP was mild in 11 patients and moderate in 3 patients. The risk factors for PEP included the following: female, pancreatic ductal contrast injection and no PD stent. In multivariate analysis, sex (female; odds ratio(OR) = 6.14, 95% confidence interval(CI) = 1.30–28.94) and PD stent (no stent; OR = 15.06, 95% CI = 2.89–78.26) were significant risk factors for PEP. When divided into the PD stent placement or the no stent, the frequency of PEP in the PD stent group was significantly lower than that in the no stent group (10.9% vs 50.0%; P = 0.02). The serum amylase level after the procedure was significantly lower in the PD stent than no stent group (179 ± 30 vs 979 ± 248, P < 0.001). The serum lipase level in the stent group was significantly lower than in the no stent group (319 ± 65 vs 2861 ± 730, P = 0.001).

Conclusions Female and no PD stenting were found to be independent risk factors of PEP after DGT for difficult biliary cannulation. Pancreatic duct stenting after DGT is recommended to reduce the incidence of PEP.

eP394  COMPARATIVE EFFICACY AND SAFETY OUTCOMES OF ENDOSCOPIC ULTRASOUND-GUIDED LUMEN-APPOSING METAL STENTS DRAINAGE FOR PANCREATIC PSEUDOCYSTS AND WALLED-OFF NECROSIS – A SINGLE-CENTER EXPERIENCE

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Aims Endoscopic ultrasound (EUS)-guided transmural drainage is considered the first-line treatment of pancreatic fluid collections (PFCs). The results of LAMS drainage for different PFC types remain controversial. This study aimed to compare the outcome and safety of LAMS drainage for walled-off necrosis ( WON) and pancreatic pseudocysts (PPC).

Methods Patients with PPC or WON who underwent EUS-guided drainage with LAMS from November 2013 to October 2021 were analysed retrospectively. Efficacy outcomes were technical and clinical success rates and procedure time. Safety outcomes included bleeding rate, stent migration, stent occlusion, perforations, septic complications, hospital stay. Pathogen spectrum analyses of WON vs. PPC were included.

Results 35 and 48 patients with PPC and WON, respectively, underwent drainage with LAMS. The median procedure time for PPC and WON were 42.5min and 50.0min, respectively (P = 0.175). Median stent indwell time was 56 days for WON and 66 days for PPC (P = 0.349). Technical and clinical success rates did not differ significantly (P = 0.635 and P = 0.225). 56% of patients in the WON group required subsequent endoscopic necrosectomy. Overall adverse events after LAMS placement occurred more often in the WON group (37% vs. 12%; P = 0.019). Fungal pancreatic infections and enterococcus infections differed significantly between both groups (63% WON vs. 33% PPC; P = 0.03 and 50%
WON vs. 23.8 % PPC, P = 0.048, retrospectively). Fungal infections were associated with a significantly longer hospital stay (P = 0.029).

Conclusions LAMS placement in WON is associated with more adverse events. Fungal infections are more common in patients with infected WON and indicate higher morbidity and longer hospital stay.

eP397 ACCIDENTAL ENDOSCOPIC CHOLECYSTECTOMY AFTER LAMS-CHOLECYSTOBULBOSTOMY

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Aims A 72-year-old cholestatic patient was admitted to our hospital with a suspected malignant hilar biliary stenosis. An additional stricture of the common bile duct, including the orifice of the cystic duct was detected in the following ERC – balloon dilatation of the strictures and insertions of bilateral plastic stents were conducted. One week after the initial intervention, a rise of cholestasis- and inflammatory parameters was noted.

Methods One week after the initial intervention, a rise of cholestasis- and inflammatory parameters was noted. Subsequent ultrasound and CT-imaging showed cholecystitis with diffuse wall thickening of the hydropic gallbladder. Direct endoscopic drainage of the gallbladder via hot lumen-apposing-metal stent (LAMS) and subsequent insertion of an additional double-pigtail stent through the LAMS was performed without any complications resulting in improvement of clinical condition and lab values.

Results Two weeks later the patient developed again increasing markers of inflammation and cholestasis. Another stent exchange of the biliary tract stents was performed. This intervention also showed occluded gallbladder-LAMS by food residues and direct endoscopic cleansing was done. During this procedure, a 6x3 cm long greenish structure was removed through the LAMS, histologically corresponding to the necrotic gall bladder. The further clinical course of the patient was free of complications with regard to the endoscopic cholecystectomy and the LAMS was finally replaced by two pigtail-stents between duodenum and gallbladder bed.

Conclusions This case presents an uncommon event after endoscopic ultrasound-guided gallbladder drainage with endoscopic removal of the gallbladder through the LAMS. This individual case did not result in specific complications.

eP398 EFFICACY OF PANCREATIC STENTS IN A REAL-WORLD PRACTICE: 10-YEAR RETROSPECTIVE COMPREHENSIVE STUDY

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Aims Recent data have shown an increase in the incidence of post-endoscopic retrograde cholangio-pancreatography (ERC) pancreatitis (PEP) among hospitalized patients having ERCP. Pancreatic duct stent (PDS) placement seems to facilitate common bile duct (CBD) access and reduces the rate of PEP. However, endoscopists, feel uncomfortable placing a PDS. Most information regarding PDS comes from randomized control trials. In this study, we present a retrospective analysis of prospectively collected data, focusing on the effectiveness of PDS placement in assisting CBD cannulations and in preventing PEP, in real world practise.

Methods Eligible patients were those who underwent ERCP procedures with a PDS placement and they had a naive papilla. The PDS was placed after three inadvertent guidewire passages into the pancreatic duct.

Results A total of 4830 patients underwent ERCP between 2010-2020, with PEP rate 5.1 % and cannulation rate 93 %. Among them, 289 met the inclusion criteria (133 males, mean age:67yrs). Indications are presented in Table 1. In 253 patients CBD cannulation was achieved after the placement of the PDS in the same procedure, whereas in 21 patients in a second ERCP. In 15 patients the cannulation was not possible. One patient developed severe PEP and another one PDS migration into the duct.

Conclusions Our data have shown that the PDS placement facilitates the CBD cannulation in difficult cases without significant side effects. Also, it seems to reduce the incidence of the PEP and therefore PDS use should not be avoided when the indication is fulfilled.

Table 1.

<table>
<thead>
<tr>
<th>Indication</th>
<th>PDS</th>
</tr>
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<tbody>
<tr>
<td>CBD stones</td>
<td>168</td>
</tr>
<tr>
<td>Malignant CBD stricture</td>
<td>90</td>
</tr>
<tr>
<td>Benign CBD stricture</td>
<td>18</td>
</tr>
<tr>
<td>Bile leak</td>
<td>13</td>
</tr>
</tbody>
</table>

eP399V CONVERSION OF A MALFUNCTIONING PERCUTANEOUS CHOLECYSTOSTOMY INTO AN EUS-GUIDED CHOLECYSTOGASTROSTOMY

Authors Omella Usieto L.1, Agudo Castillo B.1, Gonzalez-Haba Ruiz M.1
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Percutaneous gallbladder drainage (PGD) is the treatment of choice for acute cholecystitis in high risk surgical patients. EUS-guided transmural drainage (EUS-GBD) has shown similar results with a lower rate of complications. In addition, as its role as initial approach, EUS-GBD may convert a pre existing PGD into an internal drain, reducing common complications (ie catheter dislocation, cellulitis, fistula formation and infection) and increasing patient’s comfort. We hereby report a case of successful EUS-GBD conversion in a patient with PGD and recurrent complications.

eP400 EFFECTIVENESS AND SAFETY OF TRANSPANCREATIC PAPILLOTOMY: A LARGE SCALE RETROSPECTIVE CROSS-SECTIONAL STUDY

Authors Papaefthymiou A.1, Florou T.1, Koffas A.1, Kateri C.1, Pateras K.1, Fytzis P.1, Chougias D.1, Behtsis T.1, Manolakis A.1, Kapsoritakis A.1, Potamianos S.1
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Aims Difficult cannulation represents a common condition during endoscopic retrograde cholangiopancreatography (ERC). This study assessed the efficacy and adverse events during transpancreatic sphincterotomy (TPS), and investigated confounders associated with those outcomes.

Methods All patients referred to our department for ERC during 2015-2020 were eligible, in case of intact papilla and visceral anatomy. In addition to standard measures, TPS was combined with pancreatic stent (PS) placement. Beyond demographics, we retrieved data considering indication, peri-ampullary anatomy, necessity for TPS or fistulotomy, their outcomes and complications. x2 test was conducted to investigate associations between TPS and independent variables, and statistical significance was set at p<0.05. When significance was observed, the respective variables were introduced in a regression model.

Results 1082 individual patients were eligible, with equal female:male ratio and mean age of 72.7 (+ 15.82) years. Seventy-three patients (6.7 %) underwent TPS, with a 95.9 % success rate. Papilla morphology or regional divertic-
ultum did not affect the decision to TPS, though it was significantly associated with malignant common bile duct (CBD) obstruction as ERCP indication ($p = 0.001$) and followed ineffective fistulotomy in 23% of cases ($p < 0.001$). Considering adverse events, TPS did not increase the incidence of post-ERCP pancreatitis (PEP), whilst affected bleeding ($p = 0.005$). Regression analysis revealed a protective role of TPS on PEP, probably due to PS (RR: 0.015, $p < 0.001$), whereas the aforementioned risk of hemorrhage was attributed to previous pre-cut attempts (RR: 3.024, $p = 0.004$).

**Conclusions** TPS combined with PS is an effective and safe modality in cases of difficult cannulation and could be the first choice in malignant CBD obstruction.

**eP403 DESMOPLASTIC STROMA IDENTIFICATION AS A QUALITY MARKER FOR RELIABLE HISTOLOGIC SAMPLES OBTAINED BY EUS IN SOLID PANCREATIC LESIONS. A NEW STANDARD FOR ADEQUACY**

**Authors** Perez Alvarez G.1, Husain Calzada L.2, Vargas Gonzalez C.A.1, Cano Calderero F.X.1, Junquera Alonso E.1, Terroba Alonso M.1, Cerrella Cano C.1, Alonso de la Campa J.2, Mejides Santos G.2, Perez Vidal L.2, Crespo Sanchez M.1, Sanchez Dominguez L.1

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**DOI** 10.1055/s-0042-1745256

**Aims** To evaluate the presence of desmoplastic stroma as a potential new quality marker of the fine needle biopsy (FNB) samples in pancreatic ductal adenocarcinoma (PDAC). To illustrate that a simplified strategy to obtain and process the tissue using histologic needles allows an adequate high-quality sample, including the identification of stroma.

**Methods** We retrospectively analyzed the global diagnostic performance and the presence of desmoplastic stroma in consecutive FNB samples of solid pancreatic lesions clinically suspicious of PDAC. We included those lesions starting after the switch from cytologic-based (FNA) samples to those obtained using histologic needles (FNB), and processed straightforwardly as a usual biopsy, what we defined as “simplified biopsy”, namely to directly express the tissue in formalin, doing a rapid first adequacy assessment according to macroscopic on-site evaluation (MOSE) as described in the literature. 22G caliber Franseen and fork-type needles were used.

**Results**

From January 2020 to August 2021, fifteen consecutive purely solid and 5 solid-cystic lesions were diagnosed as PDAC using the simplified biopsy strategy. Diagnostic accuracy was 100%. Desmoplastic stroma was identified in all the samples from solid lesions.
Conclusions Identification of desmoplastic stroma could work as a new specific quality marker for FNB samples, as it represents a more reliable feature of a PDAC lesion in terms of molecular microenvironment. This could facilitate ancillary tests aimed at stromal therapeutic targets including the design of a PDAC lesion in terms of molecular microenvironment. This could facilitate recovery well, with solid diet 48h later. No delayed complications.

**eP404V EUS-GUIDED JEJUNO-JEJUNAL ANASTOMOSIS AS SALVAGE THERAPY FOR A COMPLEX BENIGN GASTRIC OUTLET OBSTRUCTION**

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Lumen-apposing metal stents (LAMS) are gaining ground in the treatment of benign gastric outlet obstruction (GOO). A 76-years-old male patient with recurrent GDO following a surgical gastrectomy. An upper-GI endoscopy revealed a kinking of the proximal efferent limb resulting in a long complex stenosis. First, a 7-French catheter was palced in the alimentary limb. Subsequently, an endoscopic ultrasound (EUS) scope was advanced into the afferent limb. The efferent limb was punctured with a 19-gauge needle. Finally, a wire-guided 20mm LAMS was used to perform the jejuno-jejunal anastomosis. The patient recovered well, with solid diet 48h later. No delayed complications.

**eP405V TANDEM ENDOSCOPE ASSISTED EUS-GUIDED ANTEGRADE STENTING OF BILARY AND PANCREATIC DUCT IN A SURGICALLY TRANSECTED PAPILLA**

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Iatrogenic injuries to the major papilla involving the pancreatic (PD) and common bile duct (CBD) are challenging to treat. Surgical reconstruction is usually required. We describe the endoscopic reconstruction of the pancreatic and biliary orifices after a surgical complication in a 61-year-old male who underwent duodenal surgery where the papilla was accidentally stapled and resected, and resulted in occlusion of the PD and CBD. The CBD and PD were accessed from the stomach for antegrade stenting to form pancreaticoduodenectomy and cholecodochoduodenectomy. The tandem endoscope rendez-vous technique was used due to multiple instrumentation bends, to allow better antegrade pushability.

**eP406V MUCINOUS CYSTADENOMA INFECTION AFTER EUS AND MORAY MICROFORCEPS BIOPSIES**

Authors Pijoan Comas E.¹, ², Vargas García A.¹, ², Torres Monclús N.³, Bayas Pástor D.C.¹, Miguel Salas I.¹, Alburquerque Miranda M.¹, ², Torres Vicente G.¹, Zaragoza Velasco N.¹, ³, Figa Franches M.¹, ³, Gonzalez-Huix Lladó F.¹, ³
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A 74-year-old woman underwent EUS for pancreatic isthmus cyst with increasing size (up to 62x54mm). Punction with cytologic 16G needle was performed, obtaining liquid and biopsies of the cystic wall with Moray microforceps (5 bites). Mucinous cystadenoma with low grade dysplasia was diagnosed. The patient was admitted for abdominal pain and fever 48 hours afterwards, with cystic infection suspicion. Antibiotic treatment was started with clinical deterioration at 48 hours. EUS showed 65x58mm lesion with thickened walls and hyperechogenic component (pancreatic abscess). Drainage was performed through LAMS (HotAxios) 10x10mm with 7Fx3cm pigtail. Both stents were removed 3 weeks after favourable evolution.

**eP407V INTRACHOLEDOCAL BLEEDING DUE TO EPICHOLEDOCAL ARTERY LACERATION AFTER ENDOSCOPIC BALLOON DILATATION**

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Institutes ¹ Clínica Girona, Girona, Spain; ² Hospital de Palamós, Palamós, Spain; ³ Hospital Universitari Aruà de Vilanova, Lleida, Spain

A 58-year-old man underwent ERCP for symptomatic choledocholithiasis. Dilated CBD (15mm) with narrowing of intrapancreatic CBD (7mm) and 12mm lithiasis in medium CBD were found. Lithiasis could not be removed with balloon. Endoscopic-balloon-dilatation up to 14mm was performed. Immediately following balloon deflation, a spurring pulsatile bleeding from CBD was seen, probably due to epicholedocal artery laceration. Bleeding could not be controlled by compression. However, adrenaline injection achieved temporary haemostatic control. Lithiasis was removed. cSEMS of 4cm was placed. The bleeding was controlled during ERCP, the patient was discharged in 24h and stent was spontaneously migrated at 4 weeks.

**eP408 ENDOSCOPIC AND SURGICAL TREATMENT OF AMPULLARY TUMORS: A SINGLE CENTER STUDY**

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Aims Neoplastic tumors of the ampulla of Vater are rare. Pathologically benign lesions are primarily indicated for endoscopic treatment. Cases of early adenocarcinomas affecting only the mucosa might be resolved by endoscopic resection in selected patients. Tumors infiltrating deeper layers of the wall must be removed by radical surgery.

Methods In the years 2012 – 2020, 63 patients with ampullary tumors were treated at the University Hospital Brno. All underwent appropriate staging examinations. The individual therapeutic options were discussed by a multidisciplinary committee. The main monitored parameters were: the type of surgery, 30 day morbidity and mortality, the results of definitive histopathological examination, adjuvant therapy and recurrence of the disease.

Results Surgical resection was indicated in 44 patients. Transduodenal ampullectomy (TDA) was performed in 11 patients. The main type of resection was pancreaticoduodenectomy (PD) performed in 33 patients. 19 patients underwent endoscopic papillotomy. Definitive pathology described adenocarcinoma in 36 patients.

Conclusions In the cases of adenomas of ampullary tumors endoscopic treatment is indicated. In early stages of ampullary carcinoma, it is appropriate to consider an endoscopic solution in selected patients. If endoscopic treatment is not possible due to the extent or biological nature of the lesion, a radical
surgical solution with a preference for PD is fully indicated. TDA can be considered in polymorbid and elderly patients without suspected lymph node involvement. In all our patients with pT1a adenocarcinomas (n = 3), all nodes removed were pathologically negative. These patients could benefit from endoscopic resection or TDA.

eP409 QUANTITATIVE ASSESSMENT OF CONTRAST ENHANCED ENDOSCOPIC ULTRASONOGRAPHY (CE-EUS) WASHOUT RATE IN PREDICTING MALIGNANCY IN PANCREATIC SOLID MASSES: A PILOT STUDY

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Aims  Contrast enhanced endoscopic ultrasound (CE-EUS) is a sensitive method to evaluate pancreatic solid masses. The arterial phase was mostly studied, however, the importance of venous wash-out has been less studied. The aim: to evaluate the diagnostic role of CE-EUS wash-out rate in the early and late venous phase based on quantitative analysis.

Methods  We prospectively analyzed patients from a center with solid pancreatic masses on CT who underwent conventional EUS followed by CE-EUS and EUS-fine needle aspiration. Quantitative parameters were generated by time-intensity curve analysis. A standardized region of interest inside the tumor was examined and the quantitative uptake of Sonovue was recorded. The wash-out phase was assessed as early wash-out = uptake at 45 seconds/peak intensity between 25–30 seconds and late wash-out = uptake at 60 seconds/peak intensity between 25–30 seconds. The final diagnosis was based on surgery or EUS tissue acquisition results and 6 months follow-up.

Results  A total of 31 patients were included, 23 adenocarcinomas and 8 chronic pancreatitis patients. In adenocarcinomas the early wash-out was 79.4 ± 28.8 % and the late wash-out was 80.5 ± 17.8 %, showing slow wash-out. In case of chronic pancreatitis, the early wash-out was 74.3 ± 47.2 % and late wash-out was 60.5 ± 21 %. There was no statistically significant difference between the groups.

Conclusions  The washout rates between pancreatic adenocarcinoma and chronic pancreatitis were not different. The high standard deviation value at 60 seconds in the adenocarcinoma group shows the heterogeneity of the wash-out rate and further assessment based on different grading of adenocarcinoma is needed.

eP410 A CHALLENGING DIAGNOSE OF A GIANT BILIARY CYSTOADENOMA

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Aims  Differential diagnosis of intra-abdominal cysts can often be challenging.

Methods  We present a case of a woman with a huge intra-abdominal cyst subjected to various in-depth investigations.

Results  A 62-year-old lady presented for persistent epigastric pain, early satiety, post-prandial vomiting and weight loss. No history of pancreatitis and no biochemical alterations. EGDS showed a little bulging, US revealed a voluminous epigastric cystic formation. CT and MRI confirmed a cyst extended for 12 cm, with thin and regular walls, arranged between the left hepatic lobe and the small gastric curvature, suspected for duplication cyst. EUS showed a cyst almost completely anechoic, with slightly well-defined walls, thin peripheral hyperechoic internal septa. No evidence of communication with the Wirsung or its branch ducts or even apparent origin from the gastro-intestinal wall. Intra ed extrahepatic biliary system was regular. Suspicion of cystic lymphangioma was posed, without completely ruling out an extrinsically developing duplication cyst. Considering the low diagnostic accuracy of FNA (with risk of seeding if malignancy) and worsened symptoms, the patient was referred to surgery and underwent laparoscopic excision. Final histological diagnosis was mucinous biliary cystadenoma.

eP411 METACHRONOUS PANCREATIC METASTASIS FROM COLON CANCER DIAGNOSED BY ENDOSCOPIC ULTRASOUND-GUIDED FINE NEEDLE BIOPSY (EUS-FNB)

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Aims  Pancreatic metastases are rare (2 % of pancreatic neoplasms). They can appear long after the initial surgery and primary cancer most frequently associated is renal cell carcinoma. Preoperative diagnosis is very challenging.

Methods  Here a case of a rare pancreatic metastasis from co-rectal cancer (CRC).

Results  A 66-year-old man underwent a left hemicolectomy in urgency for a colonic obstruction. Histological examination revealed an ulcerated CRC (stage IIIb:pT4aN1M0). Four months later a computed-tomography (CT) described liver metastases treated with atypical resections, after neoadjuvant chemotherapy. After 18 months, a 18FDG PET/CT showed uptake in S6-S8 and in the pancreatic tail. CT confirmed a hypodense lesion of 26 mm of the pancreatic tail, uncertain whether primary or secondary. Multidisciplinary team indicated EUS-FNB. EUS showed a lesion of the pancreatic tail measuring 24x21 mm, hypoechogenic and inhomogeneous, with poorly defined margins, hypovascularized even after administration of contrast medium, of hard consistency on elastosonography, in close proximity to the splenic vessels and the posterior gastric wall. The main pancreatic duct was regular. FNB was performed using a 25-G needle (SharkCore, Beacon Endoscopic/Medtronic, Newton, MA, USA). Sufficient specimens were obtained after 3 passes. Histopathological and im-
munohistochemical analysis described the presence of adenocarcinoma and revealed cytokeratin-20 (CK20) and caudal-type homebox transcription factor-2 (CDX2) positive with cytokeratin-7 (CK7) negative, morphologically similar to primary CRC. Final diagnosis was metachronous pancreatic metastasis from CRC and the patient will be discussed for subsequent treatment (chemotherapy vs surgery).

eP412 KI67 AGREEMENT BETWEEN EUS-GUIDED SAMPLING (EUS-FNA/FNB) AND SURGICAL SPECIMEN IN PANCREATIC NEUROENDOCRINE NEOPLASMS (pNEN)

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Aims To determine the particularities and safety of ERCP in patients over 75 years old by comparing its results with those of younger subjects.

Methods A retrospective descriptive and analytical study was carried out from September 2002 to August 2021 including 122 patients, whose age was over 75 years and had undergone ERCP for lithiasis. Epidemiological, clinical and endoscopic data were collected, and compared with younger subjects results.

Results Among 1080 ERCPs performed for lithiasis pathology, 12.6% were over 75 years old (n = 122). There was a sex ratio (M/F) of 0.96 compared to 0.6 (p = 0.014).

Conclusions Although the overall success rate remains better in younger subjects, the results of ERCP in lithiasis in elderly subjects over 75 years of age remain satisfying, with no statistically significant difference in terms of the effectiveness of ERCP.

eP414 ENDOSCOPIC BILIARY DRAINAGE IN THE PALLIATIVE TREATMENT OF KLASTIKIN TUMOURS: OUTCOMES AND FACTORS ASSOCIATED WITH SUCCESS OR FAILURE

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Institute 1 Mohammed V Military Hospital, Rabat, Morocco


Aims The aim is to report the results of endoscopic biliary drainage as well as the factors associated with its success or failure.

Methods This is a retrospective and analytical study of 75 patients, conducted between July 2009 and August 2021, including all patients admitted with a Klatskin’s tumour and for whom endoscopic drainage was indicated. Factors associated with the success or failure of endoscopic treatment were studied by logistic regression analysis.

Results The average age was 62.67 ± 12 years. Our series was characterised by a male predominance of 68%.

Endoscopic drainage was successfully performed in 81.3% of patients. Dilation was performed in 47% of cases. In multivariate analysis, and adjusting for age, gender, Bismuth tumour type, presence of metastases and endoscopic dilatation of the stenosis, only the
presence of metastases, endoscopic dilation and Bismuth tumour type modified the success rate.

Indeed, endoscopic dilatation prior to stenting increases the success rate by a factor of 4 [OR=4; p = 0.01], whereas the presence of metastases decreases this rate by 65 % [OR= 0.35; p<0.001]. However, tumours classified as Bismuth IV [OR= 8; p< 0.001] or Bismuth IIa [OR= 5; p= 0.004] were associated with a risk of endoscopic treatment failure.

Conclusions Our study suggests that the presence of metastatic hilar cholangiocarcinoma classified as Bismuth IV or Bismuth IIa appear to be associated with failure of endoscopic biliary drainage, whereas endoscopic dilatation prior to prosthesis placement appears to be associated with success.

eP415 REAL-TIME COMPUTER AIDED DETECTION OF SOLID FOCAL PANCREATIC MASSES IN ENDOSCOPIC ULTRASOUND IMAGING BASED ON CONVOLUTIONAL NEURAL NETWORKS

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Institutes 1 University of Craiova, Faculty of Automation, Computers and Electronics, Craiova, Romania; 2 University of Medicine and Pharmacy Craiova, Research Center of Gastroenterology and Hepatology Craiova, Craiova, Romania; 3 University of Craiova, Faculty of Mechanics, Craiova, Romania; 4 Indiana University School of Medicine, Department of Medicine, Indianapolis, United States; 5 Ponderas Academic Hospital, Department of Gastroenterology, Bucharest, Romania; 6 Saintmar Oncodiagnostics, Department of Pathology, Cluj-Napoca, Romania; 7 University of Medicine and Pharmacy Craiova, Department of General Surgery, Craiova, Romania; 8 Ponderas Academic Hospital, Department of Surgery, Bucharest, Romania


Aims Endoscopic ultrasound (EUS) imaging has a high accuracy for detection of solid focal pancreatic masses. However, the learning curve to master EUS is prolonged. The aim of our pilot project was to develop a real-time deep learning system used to detect and differentiate solid focal pancreatic masses as compared to normal pancreas.

Methods In this pilot study, deep learning algorithms for localization and segmentation were trained and optimized taking into consideration the trade off between performance and speed, to: 1) find pancreas/tumor in frames; 2) label them; 3) compute their bounding box with the corresponding coordinates and 4) segment them, by producing a mask, which gives pixel-wise segmentation of the pancreas/tumor.

Results 50 patients with normal pancreas or solid focal pancreatic masses were included in the study, with 15 images selected for each patient from the movies stored on the embedded hard disk drive of the ultrasound system. A total of 750 images and their ground-truths were used for training and testing of deep learning segmentation models presented in this study, reaching an average precision of 91 %.

Conclusions Our model showed a robust classification of normal pancreas versus solid focal pancreatic masses. The mode has potential to be transferred to real-time EUS imaging. Preliminary evidence suggests that these observations have the potential to improve operating characteristics of EUS by enabling targeting biopsies of focal pancreatic masses and to shorten the learning curve of trainee endosonographers.
Intraductal papillary neoplasms of the bile duct (IPNB) constitute 10 to 15% of all bile duct tumors. They are characterized by a papillary or villous neoplasm with a histological spectrum ranging from benign disease to invasive malignancy. IPNB can present surreptitiously as an intraductal mass within a dilated intrahepatic or extrahepatic bile duct. We intend to bring attention as its rarity in Western countries and tendency to masquerade as biliary stone disease can prevent its early diagnosis and management.

Methods An asymptomatic 77-year-old man with dilation of the biliary tree was referred to our Gastroenterology department.

Results He had no previous surgeries and liver enzymes were normal. Magnetic resonance cholangiopancreatography was performed, confirming a dilation of the intrahepatic bile ducts, more prominently of the left hepatic duct (16 mm), and common bile duct (CBD; 15 mm). The patient had been previously submitted to an endoscopic retrograde cholangiopancreatography (ERCP) that didn’t reveal any obstructive lesions. Endoscopic ultrasonography showed thickening of the bile duct wall. Since IgG4 was normal and a subsequent CT scan revealed a mass-forming structure in the left biliary duct, the patient was proposed to ERCP with cholangioscopy. It showed a thick mucoid secretion and multiple lesions with “fish-egg”/papillomatous appearance protruding in the dilated CBD. Biopsies confirmed the diagnosis of intraductal papillary neoplasm of the bile duct with low grade dysplasia. The patients refused surgical intervention and remained asymptomatic.

Conclusions MiES is a safe and effective treatment in the management of PD-related ARP. The retrospective nature of the studies selected is the main limitations of the present metanalysis. Prospective trials are needed to confirm these data.
Aims  Intraductal Papillary Mucinous Neoplasms (IPMNs) are a mucin producing subtype of pancreatic cysts arising from the pancreatic duct system. The thick mucous produced by IPMNs can cause an obstruction of the main pancreatic duct leading to recurrent acute pancreatitis (RAP). Endoscopic pancreatic sphincterotomy (EPS) can reduce the frequency of RAP. The aim of this study is to assess the safety and effectiveness of EPS in reducing the episodes of RAP in patients with IPMNs related RAP.

Methods  Patients with IPMNs induced RAP treated with EPS from January 2004 to December 2020 were retrospectively collected. Clinical and technical data were recorded (demographics, IPMN type, number of AP episodes, type of EPS, adverse events). A clinical follow-up was performed to assess the number of AP episodes occurred after the EPS.

Results  25 patients were included (Table 1). The mean follow-up from ESP period was 93.4 months (SD ± 56.6). The mean number of AP before and after EPS were respectively 3.29 (SD ± 1.04) and 0.51 (SD ± 0.71) (p < .00001 paired samples t-test) (Figure 1). A complete response (no further episodes of AP) and a partial response (>50% reduction of AP episodes) were obtained in 64% and 88% of the cases, respectively. One post-EPS bleeding and one minor-papilla stenosis were reported and were endoscopically managed. One patient underwent pancreatic resection for the occurrence of high-risk stigmata.

Conclusions  EPS is a safe and effective treatment to reduce the number of episodes of AP in selected patients with IPMNs-related RAP. Prospective trials are needed to confirm these data.

Table 1  Demographic and technical data of endoscopic pancreatic sphincterotomy in 25 patients with IPMNs induced RAP.

<table>
<thead>
<tr>
<th>Demographics:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of patients treated, n</td>
<td>25</td>
</tr>
<tr>
<td>Age (years), mean ± SD</td>
<td>59.6 ± 15</td>
</tr>
<tr>
<td>Sex (men), n (%)</td>
<td>9 (45%)</td>
</tr>
<tr>
<td>Type of IPMN:</td>
<td></td>
</tr>
<tr>
<td>Main duct-IPMN, n (%)</td>
<td>6 (24%)</td>
</tr>
<tr>
<td>Side Branches-IPMN, n (%)</td>
<td>17 (68%)</td>
</tr>
<tr>
<td>Mixed type-IPMN, n (%)</td>
<td>2 (8%)</td>
</tr>
<tr>
<td>Endoscopic procedure:</td>
<td></td>
</tr>
<tr>
<td>Major Papilla Sphincterotomy, n (%)</td>
<td>20 (80%)</td>
</tr>
<tr>
<td>Minor Papilla Sphincterotomy, n (%)</td>
<td>5 (20%)</td>
</tr>
<tr>
<td>Nose-Pancreatic Drainage, n (%)</td>
<td>21 (84%)</td>
</tr>
<tr>
<td>Pancreatic stent, n (%)</td>
<td>4 (16%)</td>
</tr>
<tr>
<td>Procedure related adverse events:</td>
<td></td>
</tr>
<tr>
<td>Sphincterotomy stenosis (treated with re-sphincterotomy, no further episodes of AP)</td>
<td>1</td>
</tr>
<tr>
<td>Post-sphincterotomy bleeding (treated with adrenaline injection and endoclip)</td>
<td>1</td>
</tr>
</tbody>
</table>

Fig. 1

Table 1  Demographic and technical data of endoscopic pancreatic sphincterotomy in 25 patients with IPMNs induced RAP.
Conclusions In this pilot study UMI-NGS analysis was of limited additional value to the morphological evaluation of a single FNA smear. Non-diagnostic FNA smears all remained non-diagnostic after NGS. Results of UMI-NGS analysis can be helpful in diagnosing pancreatic malignancies when the pathologist is doubtful.

**eP423 PROVIDING THE PATHOLOGIST WITH CLINICAL INFORMATION IMPROVES THE READING AND INTERPRETATION OF EUS-GUIDED TISSUE ACQUISITION OF SOLID PANCREATIC LESIONS**

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**DOI** 10.1055/s-0042-1745276

**Aims** EUS-guided tissue acquisition is the most sensitive method to collect tissue samples of solid pancreatic lesions. The availability of clinical information might aid the pathologist’s ability to establish a diagnosis. The aim of this study was to investigate the diagnostic accuracy and agreement of cytotecnicians and pathologists in the evaluation of EUS-FNA samples of solid pancreatic lesions and the impact of clinical information on agreement and diagnostic accuracy.

**Methods** Forty EUS-FNA smears were collected retrospectively and reviewed by eight cytotechnicians and sixteen pathologists. After a month, all participants reviewed the smears again, but in a different order. Clinical information was available in half of the cases in the second round. The participants were blinded to the purpose of this study. The diagnostic accuracy is described as the proportion of smears that is correct, compared to the final follow-up diagnosis. Inter-observer agreements are calculated using unweighted Fleiss’ kappa statistics.

**Results** The diagnostic accuracy based on smears only was significantly higher with clinical information compared to without clinical information (45 % versus 38 %, p-value 0.002). The overall agreement among participants without clinical information was fair (κ 0.225). With clinical information the overall agreement was significantly higher compared to the agreement without clinical information (κ 0.271, p-value of the difference = 0.018).

**Table 1**

<table>
<thead>
<tr>
<th>Morphology</th>
<th>Non-diagnostic</th>
<th>Benign</th>
<th>Atypical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cases</td>
<td>3</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>UMI-NGS panel result</td>
<td>2 insufficient material</td>
<td>3 insufficient material</td>
<td>2 insufficient material</td>
</tr>
<tr>
<td></td>
<td>1 no mutations found</td>
<td>3 no mutations found</td>
<td>1 no mutations found</td>
</tr>
<tr>
<td>Follow-up</td>
<td>2 malignant</td>
<td>4 malignant</td>
<td>3 malignant</td>
</tr>
<tr>
<td></td>
<td>1 benign</td>
<td>3 benign</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions Adding clinical information to the pathology requisition form improves the diagnostic reproducibility and diagnostic accuracy of EUS-FNA smears of solid pancreatic lesions.

**eP424 COMBINED ENDOSCOPIC STENTING FOR CONCOMITANT MALIGNANT GASTRIC OUTLET OBSTRUCTION (GOO) AND MALIGNANT BILIARY OBSTRUCTION (MBO): DATA FROM A SINGLE REFERRAL CENTER**

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**DOI** 10.1055/s-0042-1745277

**Aims** In bilio-duodenal malignant strictures, double biliary and duodenal stenting is required, as alternative approach to surgical by-pass. Aim of this study was to evaluate the technical/clinical efficacy and safety of combined endoscopic stenting, in patients with concomitant malignant GOO and MBO.

**Methods** From 02/2013 to 12/2021, we collected data on patients treated with combined duodenal and biliary stenting for concomitant malignant GOO and MBO, occurred simultaneously or sequentially. Malignant GOO was managed by duodenal self-expanding metal stent (SEMS); biliary drainage was achieved using trans-papillary biliary SEMS or EUS-guided Lumen-Apposing Metal Stent (LAMS) placement.

**Results**

**Table 1**

<table>
<thead>
<tr>
<th>TIMING AND TYPE OF COMBINED STENTING</th>
<th>N. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONE STEP</td>
<td>36 (49.3 %)</td>
</tr>
<tr>
<td>- Duodenal SEMS</td>
<td>36</td>
</tr>
<tr>
<td>- Trans-papillary SEMS</td>
<td>22</td>
</tr>
<tr>
<td>- EUS-guided biliary drainage (LAMS)</td>
<td>14</td>
</tr>
<tr>
<td>TWO STEPS</td>
<td>37 (50.7 %)</td>
</tr>
<tr>
<td>- Biliary drainage before</td>
<td>25</td>
</tr>
<tr>
<td>Trans-papillary biliary SEMS</td>
<td>25</td>
</tr>
<tr>
<td>EUS-guided biliary drainage (LAMS)</td>
<td>12</td>
</tr>
<tr>
<td>Duodenal SEMS before</td>
<td>3</td>
</tr>
<tr>
<td>Trans-papillary biliary SEMS</td>
<td>9</td>
</tr>
</tbody>
</table>

Seventy-three patients (39M, 53.4 %) were treated with combined duodenal and biliary stenting for concomitant malignant GOO and MBO. Biliary drainage was performed using biliary SEMS in 50 (68.5 %) and EUS-guided LAMS in 23 (31.5 %) patients.

Double duodenal and biliary stenting was performed during the same procedure (one-step) in 36/73 (49.3 %) patients, while in 37/73 (50.7 %) it was performed in two-steps. See Table 1.

Technical success of double stenting was achieved in 71/73 (97.3 %). Clinical success was obtained in 67/73 (91.8 %) for biliary drainage and in 65/73 (89.0 %) for duodenal stenting.

We observed 15/73 (20.5 %) complications [9 intra-procedural (5 self-limiting bleedings, 2 LAMS-maldeployments, 2 duodenal perforation), 6 early (pancreatitis)] and 17/73 (23.3 %) late “stent-related” (13 cholangitis, 2 stent migration and 1 outlet obstruction for duodenal stent ingrowth).
Conclusions Combined stenting of bilo-duodenal malignant strictures is effective, minimally invasive, safe and alternative to surgery, thus becoming the standard of palliative care in this setting, especially in a referral center for bilio-pancreatic diseases.

eP425  UPPG EST GASTRO INTESTINAL BLEEDING AND CIRRHOTICS- A SINGLE CENTRE OBSERVATIONAL STUDY FROM SOUTH INDIAN POPULATION

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Aims The etiology of upper gastrointestinal bleed in cirrhotics (UGIB) is variable in different geographical regions. Epidemiological data are helpful in knowing the burden of the problem. This study was conducted to know the spectrum, mortality, morbidity, and predictors of outcome in patients with Cirrhosis presenting with acute UGIB.

Methods We retrospectively analyzed the data of patients admitted to our hospital between April 2020 and April 2021, with UGIB and cirrhosis and noted the clinical presentation, etiology of bleed, and outcome.

Results A total of 134 patients (83.58 %) male, (16.41 %) female (male: female ratio: 5:1) of UGIB were included in the study. The mean age of the patients was 52.31 ± 15.3 years. The most common etiology of UGIB in cirrhotics was Variceal related (83.21 %) followed by Erosive mucosal disease and Peptic ulcer related 28 (24.81 %). Majority of patients were managed endoscopically. The variceal related 28 (24.81 %). Majority of patients were managed endoscopically. The mean duration of hospital stay was 6.6 ± 5.79 days. Re bleeding was seen in 7 patients but None of them underwent surgery. In hospital, mortality was 2.6 %.

Conclusions Cirrhosis may present with non variceal sources of UGI bleeding though variceal bleed is still the most common cause of UGIB. Rebleed rate, need for surgery, and mortality due to UGIB are declining. Elderly age (> 65), hypoalbuminemia (serum albumin <3mg/dl) and renal dysfunction are important factors associated with increased mortality.

Table 1 Variables analyzed for outcome.

<table>
<thead>
<tr>
<th>Parameters (Mean)</th>
<th>Variceal (n = 112)</th>
<th>Non variceal (n = 22)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platelet count x 10^3 cells/cumm</td>
<td>94 ± 63.34</td>
<td>43.01 ± 109</td>
<td>0.002</td>
</tr>
<tr>
<td>Blood urea (mg/dl)</td>
<td>52.3 ± 37.96</td>
<td>59.43 ± 44.3</td>
<td>0.176</td>
</tr>
<tr>
<td>Creatinine (mg/dl)</td>
<td>1 ± 0.92</td>
<td>0.94 ± 0.83</td>
<td>0.363</td>
</tr>
<tr>
<td>Albumin (g/dl)</td>
<td>2.31 ± 0.74</td>
<td>3.8 ± 0.43</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Conclusions Cirrhotics may present with non variceal sources of UGI bleeding though variceal bleed is still the most common cause of UGIB. Rebleed rate, need for surgery, and mortality due to UGIB are declining. Elderly age (> 65), hypoalbuminemia (serum albumin <3mg/dl) and renal dysfunction are important factors associated with increased mortality.

eP426  ASSESSMENT OF RISK VARIABLES AND MORBIDITY IN PATIENTS WITH CIRRHOTIC WITH ASSOCIATED PORTAL VEIN THROMBOSIS IN A SINGLE ASIAN CENTRE - A OBSERVATIONAL STUDY

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Aims To Study was done to determine the various risk factors and prognostic factors of newly detected portal vein thrombosis (PVT) in Cirrhotics. In hospital complications and short term mortality were also followed up.

Methods Hospitalized cirrhotic patients were segregated into the PVT and non-PVT groups. Various clinical and laboratory parameters are included in the study. Indices possibly associated with PVT were measured. PVT was detected by both Doppler US and CECT abdomen. The SPSS software was used for all statistical analyses. All quantitative data were expressed as mean ± standard deviation. Multivariate binary logistic regression was performed and the model was estimated using the step wise backward method.

Results 700 cirrhotic patients screened over 2 years period, 178 patients who full fill the inclusion criteria were included in our study. 56 (8 %) had portal vein thrombosis. Majority of PVT were found in males aged 55 ± 12 years. Most common presentation were gastrointestinal bleeding, abdominal distention, fever, jaundice, and hepatic encephalopathy. Most common site of portal vein thrombosis was PV trunk. NASH followed by alcohol related cirrhosis was the major etiology for cirrhosis in PVT.

Conclusions Some of the previously hypothesized risk factors for PVT, such as advanced age, male gender, smoking status, alcohol consumption, systemic hypertension, and D.M however were not associated with portal vein thrombosis in our study. Lower Blood platelet, Splenic diameter and Haemoglobin levels were found statistically significant risk factor for portal vein thrombosis. There were no in hospital complications.


Conclusions The PCN surveillance program in MMUH has been significantly impacted by COVID-19. Delays were evident in 2020 but the most significant impact is noted in 2021 with over one-third of scans, deferred indefinitely. Delays have not resulted in a cancer diagnosis however, the long-term impact of COVID-19 will only become apparent in the future.
eP428  ACUTE PANCREATITIS AND INTRAGASTRIC BALLOON

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Aims  The prevalence of obesity is increasing worldwide; it has become a major health problem even in low to middle income countries. Intragastric balloon (IGB) has been confirmed as an effective weight loss treatment. We aim to present a case of acute pancreatitis following IGB insertion.

Methods  We present a case of a 25-year-old male, admitted at our emergency department with acute onset of epigastric pain, nausea and vomiting, one month after IGB insertion.

Results  The diagnosis of acute pancreatitis was made based on the clinical picture, with radiological and laboratory confirmation, after excluding other causes. Abdominal MRI demonstrated evidence of pancreatitis with minimal fluid and inflammation of peripancreatic fat. There were evidence of IGB compressing the body and tail of the pancreas. Despite conservative treatment, patient’s symptoms and laboratory markers improved only after endoscopic IGB removal. Endoscopic placement of IGB is considered safe compared to surgical treatment of obesity. Pancreatitis may be due to IGB pancreatic compression and/or dislodgement of the catheter into the second part of the duodenum. In our patient, acute pancreatitis developed due to the mass effect of IGB on the pancreas, and no migration. The symptoms improved, lipase and amylase returned to normal levels after IGB removal.

Conclusions  IGB-induced pancreatitis is a rare but significant complication. Pancreatic compression appears to be the most important causing factor. Further studies are needed to determine the appropriate definitive treatment.

Fig. 1

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eP430  THE ROLE OF ENDOSCOPIC MANAGEMENT OF POST ORTHOTOPIC LIVER TRANSPLANT ANASTOMOTIC STRICTURES: EXPERIENCE IN A TERTIARY TRANSPLANT CENTRE

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Aims  To determine the effect of endoscopic management on post orthotopic liver transplant (OLT) anastomotic strictures.

Methods  A retrospective review of the incidence and treatment of post OLT anastomotic strictures at a tertiary transplant centre. OLT anastomotic strictures were analysed for rate of ERCP procedure success and incidence of stricture resolution versus surgery.

Results  386 OLTs were performed between 2014 and 2020. 28 (7 %) were referred for ERCP due to anastomotic stricture. Median age at OLT 57 years; female n = 9 (32 %). The median interval from OLT to ERCP was 21 weeks (range 1-1159). Successful stent placement at initial ERCP was achieved in 22 (79 %) with an overall success rate of 93 % following repeat ERCP. Strictures resolved in 12 (43 %), while 10 (36 %) were referred for hepaticojunostomy because of continued strictureing. Two patients (7 %) died with their stent in-situ while 4 (14 %) remain under active management. Median number of procedures in stricture resolution versus the surgical cohort was 3 vs 2, and median time from initial ERCP to stricture resolution 27 weeks (range 0–82) in those with endoscopic success. There was no statistical difference in stricture resolution with or without use of self-expanding metal stent; 7 of 11 (64 %) vs 5 of 9 (56 %) with plastic stents (Fisher’s exact test; p = 1.00).

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Conclusions Despite satisfactory technical success of ERCP in most post OLT anastomotic strictures (93%), a high portion of patients were ultimately resistant to endoscopic therapy and subsequently required surgical intervention. Use of SEMS did not improve stricture resolution.

eP431 ASSESSMENT OF ADVANCED METHODS FOR DIFFICULT BILIARY CANNULATION

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Aims Our research aim to assess the effectiveness and safety of advanced methods for difficult biliary cannulation such as needle pre-cut sphincterotomy, double guide wire technique, transpancreatic biliary sphincterotomy with pancreatic stent placement.

Methods We studied 78 of successful endoscopic transpapillary intervention between 2018 and 2020 randomized into three groups. Group 1 includes 32 patients (41.02 %; age – 52.93 ± 6.7; males – 37.50%) in whom needle knife pre-cut sphincterotomy were performed for successful biliary cannulation after prophylactic pancreatic stenting. Group 2 consisted of 34 patients (43.58%; age – 53.31 ± 7.6; males – 38.23%) who underwent double guide wire technique. Group 3 consisted of 12 patients (15.38%; age – 50.31 ± 6.8; males – 83.33) who underwent transpancreatic biliary sphincterotomy. All statistical analyses were performed using SPSS V20.0 software (IBM).

Results Occurrence of severe form of acute pancreatitis was higher in 3d group in cases without pancreatic stent placement. In the 2d group a had a reduced level of complications in general cohort (p < 0.05). There is no difference in rate of other complications between randomized groups (p > 0.05).

Conclusions Pancreatic duct stent placement is mandatory for advanced cannulation techniques. The double guide wire technique with pancreatic duct stent placement helps reduce incidences of post-procedural acute pancreatitis and other complications. The cases of needle knife pre-cut sphincterotomy and transpancreatic biliary sphincterotomy without of pancreatic stenting have a higher rate of complications.

Table 1

<table>
<thead>
<tr>
<th>Site of puncture</th>
<th>Mean baseline bilirubin</th>
<th>Mean bilirubin at 2 weeks after EUS-BD</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTBD done</td>
<td>14.045 ± 7.1 mg%</td>
<td>4.68 ± 5.1 mg%</td>
</tr>
<tr>
<td>Antegrade stent placement</td>
<td>4.68 ± 5.1 mg%</td>
<td>4.68 ± 5.1 mg%</td>
</tr>
</tbody>
</table>

The presence of intra-cystic glucose < 50 mg/dl was lower in mucinous cyst (23 ± 28 vs 56 ± 42 p 0.001). The mean value of intra-cystic glucose was lower in mucinous cyst (23 ± 28 vs 56 ± 42 p 0.001).

Conclusions Intra-cyst level of glucose is lower in mucinous cysts. A cut off of 50 mg/dl seems to have higher accuracy in the diagnosis of mucinous cysts but larger studies are necessary to confirm it.

eP432 PANCREATIC CYSTIC FLUID GLUCOSE LEVEL IN THE DIAGNOSIS OF MUCINOUS PANCREATIC CYSTS: A SINGLE CENTRE EXPERIENCE

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Aims Available intra-cystic biomarkers have low accuracy in distinguishing pancreatic cystic neoplasm (PCN). Glucose is an attractive alternative due to its availability and low cost. We aimed at assess the role of intra-cystic glucose level in the diagnosis of mucinous PCN.

Methods Prospective observational study on consecutive patients with PCN receiving EUS FNA at the Endoscopy department of Campus Bio-medico University Hospital of Rome.

The cut-off of intra-cystic value used to distinguish mucinous cysts from non mucinous cysts was 50 mg/dl.

A p<0.05 was considered statistically significant.

Results From March 2018 to September 2021, 16 patients were enrolled (32 % male; mean age 64 ± 16 year old). Intra-cystic glucose <50 mg/dl was observed in 58.9%. The final diagnosis was “mucinous” in 51.7% PCN.

The mean value of intra-cystic glucose was lower in mucinous cyst (23 ± 28 vs 56 ± 42 p 0.001).
Conclusions: EUS-BD is a safe and effective alternative to PTBD in patients with hilar biliary obstruction after failed ERCP. Larger comparative trials between EUS-BD and PTBD in hilar obstruction are needed.

eP434  DATA ENVIRONMENTAL ANALYSIS APPROACH TO PREDICT RISK FACTORS FOR POST-ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY PANCREATITIS

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DOI: 10.1055/s-0042-1745287

Aims: Determining the characteristics of patients who develop post-endoscopic retrograde cholangiopancreatography pancreatitis (PEP) is an important direction to improve ERCP performance. However, the rarity of specific adverse events such as PEP mostly violates the sample size requirement of multivariate analysis, leading to inaccurate risk prediction. To overcome this issue, we propose an approach based on data envelopment analysis (DEA), a data-driven method, to identify reliable predictive factors associated with the incidence of PEP.

Methods: The DEA-based approach is implemented to a set of 10 inputs including the indications and cannulation-related variables, with PEP as an output within a decision-making system that retrospectively analyzes the evolution of ERCP patients. Using the clustering technique of DEA, we generated an overall inefficiency index to classify patients based on the relative efficiency performance across different variables and identify specific variables that potentially contribute to the inefficient performance.

Results: PEP was developed in 32 (615) patients who underwent ERCP with native papilla (5.2%). The attached figure provides a concise description of the patients’ performance across the input variables, with higher values representing relatively worse performance. We noted that patients who had PEP showed highly suboptimal performances for cannulation duration and unintended PD cannulation. However, using precut to achieve biliary cannulation was not directly associated with PEP.

Conclusions: To our knowledge, this is the first attempt at developing a PEP prediction model using mathematical approaches, DEA. Herein, we found that long cannulation time and unintended PD cannulation > 1 contribute as factors significantly related to PEP.

Fig. 1

eP435  ENDOSCOPIC RETROGRADE CHOLANGIO-PANCREATOGRAPHY IN THE MANAGEMENT OF IATROGENIC BILE DUCT INJURY

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Institute: 1 Aciadem City Clinic Tokuda Hospital, Interventional Gastroenterology, Sofia, Bulgaria
DOI: 10.1055/s-0042-1745288

Aims: The aim of this study was to assess the role of endoscopic retrograde cholangiopancreatography (ERCP) in the management of iatrogenic bile duct injuries.

Methods: Data was collected retrospectively from April 2015 to November 2021. All the patient included in the study had bile duct injuries caused by gastrointestinal surgery.

Results: We present a case series of fifty four patients (N=54, 22 men, 32 women, mean age 62.7). Twenty three of the bile duct injuries occurred due to conventional cholecystectomy, twenty four by laparoscopic cholecystectomy, four by echninococectomy, two by metastasectomy and one by trauma of the liver. Thirty seven patients had bile leak only (68.5%): eighteen lesions on ductus cysticus, four on ductus choledochus, eight on ductus hepaticus dexter. Seven patients had postoperative biliary stenosis (12.9%), nine patients had bile duct obstruction (16.6%) and one patient had both bile leak and biliary stenosis (1.8%). Thirty six of the patients were successfully treated by ERCP and eighteen of them were surgically treated. The type of BDI was a statistically significant prognostic factor in determining the success rate of non-surgical treatment. In addition, a shorter time to diagnosis of BDI after the operation correlated significantly with higher success rates in the treatment. Technical and long-term clinical success was achieved in 66.6%.

Conclusions: Management of bile duct injury requires a multidisciplinary team approach incorporating endoscopists, hepatobiliary surgeons and depends on the timing of recognition of injury, the extent of bile duct injury and patient’s condition.

eP436  SUBOPTIMAL ADEQUACY OF EUS-GUIDED TISSUE ACQUISITION FOR PANCREATIC TUMORS OF THE HEAD/UNCINATE. WHAT IS THE ROLE OF FIBROSIS?

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DOI: 10.1055/s-0042-1745289

Aims: The aim of this study was to compare the adequacy of pancreatic EUS-guided tissue acquisition with the fibrosis of the specimens.

Methods: Our pathologists reassessed the FNA/FNB specimens effected since 2007 for pancreatic solid focal lesions according to two new scores for grading the adequacy (inadequate, low, moderate, optimal) and the fibrosis (absent, mild, severe) of the acquired tissue.

Results: 316 FNA and 91 FNB were included; overall adequacy was 90.2%; fibrosis was assessable in 98.6% of the adequate cases. Adequacy was moderate/optimal in 89.2% of cases with absent/mild fibrosis and in 55.6% of cases with severe fibrosis. The head-uncinate of the pancreas compared to the neck-body-tail appeared more fibrotic (45.2% of cases vs 28.9%) and showed a lower adequacy (87.8% vs 95.8%), regardless of the histotype of the tumor and of the type/size of the needle used. Finally, the adequacy was independently related to the number of needle passes (83.6% after ≤2, 93.9% after ≥3). Adequate cases negative for malignancy generally showed high fibrosis and low adequacy scores, and they turned out to be a cancer in 37.5% of cases after one-year follow-up.
Conclusions These new adequacy and fibrosis scores can be usefully applied on pancreatic FNA and FNB specimens. In the head-uncinate the fibrosis is higher and the adequacy is lower; thus, especially in these sites, the execution of at least 3 needle passes is recommended. Not malignant FNA/FNB findings, mainly when the fibrosis score is high or the adequacy score is low, often hide a false negative diagnosis.

**eP437  **BRUSH CYTOLOGY IN ERCP PATIENTS – FEATURES AND PERFORMANCE AS A DIAGNOSIS TOOL**

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**DOI** 10.1055/s-0042-1745290

**Aims** Brush cytology is widely used in endoscopic retrograde cholangiopancreatography (ERCP) for the evaluation of indeterminate biliary strictures, although its moderate sensitivity represents a challenge in clinical practice. We aim to evaluate the performance of brush cytology as a diagnosis test for neoplastic strictures, as well as factors associated with malignancy in brush cytology results.

**Methods** We retrospectively analysed 152 patients that performed ERCP for indeterminate biliary stricture between June 2016 and November 2021 in Fundeni Clinical Institute, Bucharest. Brush cytology specimens were collected for 47 patients. Diagnosis of neoplastic stricture was established after evaluating biochemical, radiological and histopathology results.

**Results** The mean age was 66.19 ± 12.29 years old and 68.1% of patients were males. Neoplastic biliary stricture was diagnosed in 63% of patients – 37% cholangiocarcinoma, 17.4% pancreatic cancer, 4.3% ampullary tumour and 4.3% other malignant causes. Brush cytology results were positive for malignancy in 46.8% of patients. Positive cytology was associated with proximal biliary dilatation (p = 0.07) and with higher values of direct bilirubin (p = 0.45), tumoral marker CA 19-9 (p = 0.43) and alkaline phosphatase (p = 0.23). As compared to the final diagnosis, brush cytology has sensitivity of 68.96% and specificity of 88.23%

**Conclusions** Our results reported moderate sensitivity for brush cytology as a diagnosis test for malignancy in biliary strictures, similar to literature data. Positive brush cytology associated with factors such as bile duct dilatation and biochemical markers.

**eP438  **ABSENCE OF CHOLEDOCHUS: AN EXCEPTIONAL ABNORMALITY OF THE BILIARY TRACT**

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**DOI** 10.1055/s-0042-1745291

**Aims** Demonstrate an uncommon anatomic variation in biliary anatomy

**Methods** Use of imaging techniques and ERCP

**Results** 77-year-old patient with acute cholangitis. In the imaging study, a variant of normality is detected: right and left hepatic ducts converge at the distal intrapancreatic level with the consequent absence of a common hepatic duct. Likewise, the cystic duct has a very low implantation, in the same region of confluence. A 5mm stone was observed in the cystic duct and another in the duct confluence area. ERCP was performed with removal of the impacted stone at the suprapapillary level. On injecting contrast, cystic and what appears to be a false negative diagnosis.

**eP439  **PERFORMANCE OF P2/MS NON-INVASIVE INDEX IN THE PREDICTION OF HIGH-RISK ESOPHAGEAL VARICES**

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**Institute** 1 Military Hospital Of Tunis, Tunis, Tunisia

**DOI** 10.1055/s-0042-1745292

**Aims** Acute variceal bleeding is a life-threatening complication of portal hypertension. Our objective was to evaluate the performance of the P2/MS non-invasive index using complete blood counts in the prediction of high-risk esophageal varices (HRV).

**Methods** We performed a retrospective analysis of data from consecutive cirrhotic patients followed in our department, recruited from January 2010 to December 2019. The P2/MS score was calculated using the following formula: (platelet count)² / [monocyte fraction (%) × segmented neutrophil fraction (%)].

**Results** A total of 224 patients were included with an average age of 61.02 ± 13.2 years and a sex ratio of 1.6. The main etiology of cirrhosis was viral infection C (32.1%) followed by viral infection B (22.8%) and non-alcoholic steatohepatitis (21.4%). One hundred and seventy patients had One HRV(75.9%). Patients without HRV had a higher P2/MS score value compared to patients with HRV (103.58 ± 185.3 vs 27.99 ± 64.81; p < 0.001). The area under the ROC curve of P2/MS score was 0.745 [95% CI: 0.658-0.832]. At a cut-off of P2/MS < 12, the positive predictive value of the presence of HRV in patients with cirrhosis was 90.11% while, at a cut-off of P2/MS > 18, the negative predictive value of P2/MS was 87.82%.

**Conclusions** Anatomical variants of the bile ducts are frequent, although the absence of choledochus is exceptional. Their knowledge is of the utmost importance during invasive bile duct procedures to avoid incidental bile duct injury.
Conclusions  In our study, P2/MS score, which was a simple and useful score for predicting HRV, could allow better risk stratification. Patients with P2/MS > 18 may avoid endoscopy while those with P2/MS < 12 should be considered for adequate prophylactic treatments.

eP440  EFFICACY OF AGGRESSIVE PERIPROCEDURAL HYDRATION IN THE PREVENTION OF POST-ERCP PANCREATITIS: AN OBSERVATIONAL STUDY

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Aims  Post-endoscopic retrograde cholangiopancreatography (ERCP) pancreatitis (PEP) is the most common complication of ERCP. Aggressive periprocedural hydration (APH) in addition to rectal administration of NSAIDs has been proposed to further reduce incidence of PEP with discordant results. We aimed to evaluate the added value of APH in reducing incidence of PEP in patients undergoing ERCP.

Methods  We prospectively evaluated all consecutive patients undergoing ERCP in our center between 2019 and 2021. All patients received administration of rectal NSAIDs. According to the admission ward, (Gastroenterology versus Surgery) patients would undergo APH or normal hydration, respectively. Anthropometric, clinical and procedural characteristics were collected. Procedures were categorized in high- and low-risk of PEP (ESGE guidelines). Multivariate analysis for factors affecting the risk of PEP were calculated.

Results  In the study period 117 patients, 55 females (47 %), mean age 72.3 (± 13.8) years, were included. Indications for ERCP were common-bile-duct stones (85/117, 72 %), pancreatic adenocarcinoma (13/117, 11 %) and benign biliary strictures (12/117, 10 %). Overall, 74/117 (63.2 %) patients received APH, and 87/117 (74.3 %) procedures were defined as high-risk. Of these, 56/87 (64 %) received APH. Overall, 57/117 PEP were observed (5/5 mild severity-Atlanta criteria), 2/74 (2.7 %) in APH group and 3/43 (7 %) in normal-hydration group. At multivariate analysis, APH was not associated to lower incidence of PEP (OR 0.37 95 %CI 0.1-2.3), while high-risk procedures (OR 7.9 95 %CI 1.2-69.3) were associated to increased risk.

Conclusions  APH did not result in a further reduction of PEP risk. Known risk-factors for difficult procedures were associated to increased risk of PEP.

eP441  EUS-FNA/FNB AND ERCP IN THE DIAGNOSTIC WORK-UP OF BILIARY STENOSIS: A RETROSPECTIVE STUDY

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Aims  Defining the etiology of biliary stenosis is challenging, and endoscopic tissue sampling often shows a low diagnostic yield. We evaluated the diagnostic yield of endoscopic ultrasound (EUS)-fine needle aspiration/biopsy (FNA/FNB) and endoscopic retrograde cholangiopancreatography (ERCP) brushing/biopsy in biliary stenosis

Methods  We retrospectively reviewed EUS-FNA/FNB and ERCP procedures performed in patients with biliary stenosis from November 2015 to September 2021 at the Policlinico Tor Vergata, Rome, Italy. Final diagnosis was obtained from surgical specimens or clinical/radiological follow-up

Results  Fifty-two patients (31 males; median age 73, range 49-94) underwent endoscopic procedures: 46 ERCP with brushing/biopsy, 23 EUS-FNB, 6 EUS-FNA (15 patients underwent both ERCP and EUS sampling; 4 patients underwent 2 ERCP, 1 patient 3 ERCP and 2 patients EUS-FNA/FNB after negative histology/cytology). Malignancy was diagnosed in 28/52 (53.8 %) patients. The sensitivity, specificity, and diagnostic accuracy of ERCP brushing/biopsies were 66.7 %, 100 %, and 84.8 % respectively, and those of EUS-FNA/FNB were 71.4 %, 100 %, and 80 %, respectively. In the cases in which both EUS-FNA/FNB and ERCP were performed, sensitivity, specificity and diagnostic accuracy were 81.8 %, 100 % and 86.6 %.

Overall, sensitivity, specificity and diagnostic accuracy of endoscopic sampling with EUS-FNA/FNB or ERCP in our population were 80.6 %, 100 % and 90.2 %.

Conclusions  Endoscopic tissue sampling with EUS-FNA/FNB and/or ERCP brushing/biopsies showed high diagnostic yield in patients with biliary stenosis. In selected cases, performing both procedures increases sensitivity and diagnostic accuracy compared to individual procedures.

eP442  USEFULNESS OF EUS-GUIDED SINGLE-STEP COMPLETE-ASPIRATION IN THE MANAGEMENT OF ABDOMINAL COLLECTIONS: EXPERIENCE FROM 2 TERTIARY CENTRES

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Aims  Endoscopic management of abdominal collections include endoscopic ultrasound (EUS)-guided transmural drainage, transpapillary drainage via ERCP, and EUS-guided single-step complete-aspiration (SSCA). The latter is little reported, and there are some doubts about its real effectiveness.

Methods  Database review and retrospective cohort identification among two tertiary Spanish hospitals that includes abdominal collections treated by EUS-guided SSCA. The decision to apply this strategy was based on endoscopist criteria. Treatment by transmural and/or transpapillary drainage were excluded. Technical success was defined as needle access inside the collection and complete aspiration till collapse. Clinical success was defined as reduction ≥ 50 % of initial size or decrease < 50 % with clinical improvement. Failure: increased collection or need for re-intervention. Other variables: demographics, collection features, re-intervention or safety.

Results

| Table 1 |

<table>
<thead>
<tr>
<th>Variables, features</th>
<th>Success</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex (Men/Female), n (%)</td>
<td>14 (45)/10 (47)</td>
<td>0.86</td>
</tr>
<tr>
<td>Etiology (Pancreatic/Non-pancreatic), n (%)</td>
<td>18 (41)/6 (66)</td>
<td>0.17</td>
</tr>
<tr>
<td>Microbiology (Positive/Negative), n (%)</td>
<td>8 (38)/15 (55)</td>
<td>0.23</td>
</tr>
<tr>
<td>Mean collection size (success group/non-success group), mm (SD)</td>
<td>54,5 (16,8)/51,1 (26,1)</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Fifty-two patients were included (31 men, mean age 56y (SD 13.1)). Collection data: mean size 56-mm (SD 13.1); positive culture in 40 %; pancreatic nature in 82 % (n=43). Clinical success of 46 % (one attempt) and 55 % after a second attempt. Adverse events were detected in 5 %. Most needle type used, 19 G (87 %). Mean follow-up, 467-days (SD 437). No identification of any factor associated with clinical success. Table 1. Failed-treatment approach: 40 % conservative vs 60 % re-intervention, of which 66.6 % endoscopic (second SSA in 4; pigtail placement in 3, lumen-apposing stent in 1), in 25 % percutaneous and 8.3 % surgery.
Conclusions In a percentage of selected abdominal collections treatment by EUS-SSCA could save a more aggressive strategy. No specific factor associated with failure of this strategy has been identified.

ep443v ENDOSCOPIC TRANSPAPILLARY RESOLUTION OF COMPLETE POSTSURGICAL TRANSECTION OF THEBILE DUCT

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42-year-old man with postoperative jaundice and complete biliary transaction (Strassberg type E). A first ERCP could not achieve biliary drainage, so percutaneous external drainage was performed. The patient is referred to our hospital and in a second ERCP with manipulation of an angled tip hydrophilic guidewire, proximal biliary recannulation is achieved, passing the guidewire into the intrahepatic bile duct. A 6 cm long covered metal stent is deployed resuming transpapillary biliary drainage. These lesions usually require surgical treatment by means of hepaticojejunostomy or combined treatment. We managed to recanalize the bile duct with a purely endoscopic approach.

ep444 EARLY CHOLANGITIS AFTER BILARY PLASTIC STENTING: ROOM TO IMPROVE. PRELIMINARY RESULTS FROM THE TEMPEST STUDY

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Aims Temporary plastic biliary stenting is widely used to ensure biliary drainage in various benign or malignant settings. Indwelling stents are however prone to complications generally arising from occlusion and bacterial colonization. We aim to identify procedure and patient-specific factors associated with early cholangitis.

Methods This is a prospective, single-center, cohort follow-up study of consecutive patients in whom temporary biliary plastic stenting was performed during the study period. Clinical, biochemical, ERCP-related data were recorded, and bile was extracted prior to stenting at the index procedure. At 3 months patients were recalled, the initial stent was retrieved for analysis and a new sample of bile was obtained. The main outcome analyzed was the development of early cholangitis after initial successful stenting.

Results This interim analysis included 79 patients in whom 87 biliary plastic stents were placed at the index visit. The patients were followed up for a median of 56 days. 44 patients (56%) suffered a composite outcome (cholangitis, hospitalization or death) before the planned 3-month visit. On excluding immediate complications, 19 patients developed cholangitis after a median of 41 days from stenting. 21 patients died during follow-up, 5 of which probably due to cholangitis after stenting. Retrieved stent examination revealed no association between premature cholangitis and degree of stent occlusion, presence of bacterial colonies, positive bile cultures or prior exposure to antibiotics.

Conclusions Patient or procedure-related characteristics do not predict early cholangitis after stenting. Careful follow-up and revision earlier than 3 months in certain cases might prevent serious complications.

ep445v MANAGEMENT OF CHOLANGIOHYDATIDOSIS WITH ENDOSCOPIC RETROGRADE CHOLANGIOGRAPHY

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A serious complication of hepatic hydatid disease is intrahepatic rupture (IBR). We present a 19-year-old male patient with acute cholangitis. His abdominal ultrasound (US) revealed multiple liver cystic lesions, two of which large and partially collapsed, and impaction of membranes into common bile duct. Endoscopic biliary drainage resulted in significantly improved patient’s condition, with control US disclosing complete evacuation of one of the large collapsed liver cysts. Endoscopic retrograde cholangiopancreatography as a minimally invasive procedure has become preferred approach of IBR management, with remarkable success rates, and additional advantage of permitting elective surgery, associated with decreased morbidity and mortality.

ep448 PRE-PROCEDURE PREDICTORS OF UNNECESSARY ERCP

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Aims Our aim was to evaluate the risk of unnecessary endoscopic retrograde cholangiopancreatography (ERCP) in patients with suspected common bile duct (CBD) stones before the procedure.

Methods In a retrospective single-center study, we investigated the ERCP records between 12.2016-04.2021. 30 patients with malignancy were excluded. All patients had abdominal imaging before the ERCP. Laboratory parameters were derived at the time of admission. Statistical analyses were performed using SPSS. ROC curve analysis was used to determine the cut-off values.

Results Out of 237 patients, CBD stones were removed from 128 patients (54%). 131 (55.3 %) patients had choledocholithiasis, 31 patients (13.1 %) had pancreatitis, 32 patients (13.5 %) had cholangitis, and the rest 43 patients (18.1 %) had cholestasis at the time of admission. There was a significant difference between groups by means of ALP, total bilirubin, direct bilirubin, CBD stone diameter, and CBD diameter (< 0.001). According to the ROC curve analysis, the best cut-off ALP to differentiate between groups was 223 IU/L (Sens:67; Spec:67), best cut-off total bilirubin value was 3.45 mg/dL (Sens:76; Spec:76), best cut-off direct bilirubin value was 1.75 mg/dL (Sens:81; Spec:77), best cut-off CBD diameter value was 9.75 mm (Sens:52; Spec:60), and best cut-off CBD stone diameter value was 3.2 mm (Sens:62; Spec:87).

Conclusions Among all parameters, ALP, total bilirubin, direct bilirubin, CBD diameter, CBD stone diameter were statistically significant. The cut-off values were 223, 1.75, 9.75, 3.2 respectively. Thus, both parameters may be used to predict unnecessary ERCP. Large-scale, prospective studies are needed for further conclusions.

ep449 CAN WE PREDICT A POSSIBLE MALIGNANCY BEFORE ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAHY (ERCP)?

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Aims Our aim was to predict the malignancy in patients with cholestasis before ERCP.
**Methods** In a retrospective single-center study, we investigated the ERCP records of patients between 12.2016-04.2021. All patients had abdominal imaging before the ERCP. Laboratory parameters were derived at the time of admission. Statistical analyses were performed using SPSS. Receiver operating characteristic (ROC) curve analysis was used to determine the cut-off values for predicting malignancy pre-ERCP.

**Results** 267 patients were included in the analysis. In ERCP, 35 (13.1 %) patients had normal common bile duct (CBD), 56 (20.9 %) patients had dilated CBD, 18 (6.7 %) patients had sludge in CBD, stone extracted from 128 (48 %) patients in ERCP. 25 (9.4 %) patient had a periampullary tumor and 5 (1.9 %) patients had CBD tumor. There were significant differences between groups by means of ALP, total bilirubin, direct bilirubin, diameter of CBD. According to ROC curve analysis, the best cut-off ALP value to differentiate between patients with malignancy from control group was 285 (Sens:53.3 ; Spec:80.6 PPV:25.8 ; NPV:93.2), best cut-off total bilirubin value was 3 (Sens:73.3 ; Spec:73.4 ; PPV:25.9 ; NPV:95.6), best cut-off direct bilirubin value was 2 (Sens:73.3 ; Spec:72 ; PPV:25 ; NPV:95.5), and best cut-off CBD value was 10 (Sens:80.8 ; Spec:50.9 ; PPV:16.8 ; NPV:95.6).

**Conclusions** Among all parameters, ALP, total bilirubin, direct bilirubin, the diameter of CBD were statistically significant. The cut-off values were 285, 3, 2, 10 respectively. Thus, both parameters may be used to predict malignancy before ERCP. Large-scale, prospective studies are needed for further conclusions.

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**eP450V MINIMAL RESIDUAL INTRAHEPATIC LITHIASIS TREATED WITH INTRADUCTAL LITHOTRIPSY**

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This video presents a case of combined extra- and intrahepatic lithiasis; patient underwent a first ERCP with mechanic lithotripsy and removal of stones from common bile duct (CBD). Since patient was still mildly symptomatic and blood test did not normalize, a new cholangio-MRI was performed, showing residual intrahepatic lithiasis. A second ERCP with intraductal ultrasound (IDUS) and cholangioscopy was performed, in order to reach the intrahepatic stone and perform a intraductal lithotripsy. A systematic exploration of the biliary tree was performed reaching the stones, and the intraductal lithotripsy was successfully done.

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**Conclusions** The EUS-guided RV technique is a technically demanding alternative technique for biliopancreatic drainage, with remarkable clinical efficacy and not free from adverse events. In case of failure, it can be completed with transmural drainage.

**eP452 ENDOSCOPIC ULTRASOUND-GUIDED LIVER BIOPSY: A SAFE AND EFFECTIVE CHOICE IN THE STUDY OF HEPATIC DISEASES**

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**DOI** 10.1055/s-0042-1745303

A total of 71 RV performed out of 9.072 ERCP (0.7 %), 27 RV malignant pathology (38.1 %), 58 RV biliary access (81.7 %), the rest in pancreatic duct. Standard technique (n=51), use of dye (n=15), mixed (n=4), linoleic acid (n=1). Overall TS 66.1 %, higher in biliary RV (p<0.05). TC 60.6 %. Failed cases: mainly guide-wire-related. Eight failed RV were successfully rescued by transmural drainage. One failed cholecodochoduodenostomy rescued with a RV. No significant differences according to transpapillary cannulation technique, guidewire or needle types. Adverse events 22.5 %; higher in malignant pathology group (p<0.05).
Aims Percutaneous liver biopsy has been considered as the main technique for liver diseases anatomopathological diagnosis. Endoscopic ultrasound-guided liver biopsy (EUS-LB) has been reported as an alternative. The aim is to evaluate the diagnostic yield, related factors and the safety of the EUS-LB.

Methods Descriptive analysis from an uncenter prospective database of patients who underwent EUS-LB from 12/2019 to 10/2021. We defined diagnostic yield as a satisfactory sample, which provided a successful histopathological diagnosis.

Results Sixty-two procedures (59 patients) were identified, over a total of 1807 EUS carried out in mentioned period (age: 54 ± 16.6 years; 66.1 % women). 19G-aspiration needle(FNA) was used in 6.5 % of the procedures and 22G and 19G-core biopsy needle(FNB) in 22.6 % and 71 %, respectively. Global diagnostic yield was of 90.3 %. Median number of portal tracts(NPT) were 0 (95 %CI:0-4.6) in non-diagnostic samples (p = 0.0002). NPT was 14 (95 %CI:9-16) for 19G-FNB needles versus 4 (95 %CI:3.6) with other needles (p < 0.0001). Only 3.2 % of mild adverse effects was observed (post-puncture gastric-wall bleeding treated with clip and a preventive hospitalization for suspected hepatic bleeding that was later not confirmed).

Conclusions EUS-LB is a safe and effective procedure. We recommend the use of 19G-FNB needles to obtain a higher diagnostic yield given that it is related with a greater NPT acquired.

eP453 COMPARING OUTCOMES OF ERCP UNDER CONSCIOUS SEDATION TO GENERAL ANESTHESIA

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Aims In Canada, ERCP performed under conscious sedation (CS) is the standard of care but is limited by patient movement and agitation, especially in the context of lengthy or technically complex cases. General anesthesia (GA) may optimize patient comfort and safety while reducing complications such as pancreatitis, perforation, and mortality. In October 2017, Kelowna General Hospital (KGH), in British Columbia, Canada, transitioned the standard anesthetic modality for ERCP from CS to GA. This study investigated differences in complications and patient outcomes for ERCP performed under CS (n = 1334) before the practice change compared to GA (n = 489) after the practice change.

Methods Our study is a pre-post retrospective chart review of 2,233 patients who underwent ERCP between 2015 and 2020 at KGH. Demographic, clinical, and procedural data were extracted from patient charts, and analyzed using univariate statistical analysis.

Results Rates of post-ERCP pancreatitis (6 % vs. 4 %; p = 0.018) and rates of procedure failure (8 % vs. 3 %; p < 0.001) were statistically significant and higher in the CS cohort compared to GS cohort. These results were significant despite the average Charlson Comorbidity Index Score, a measure of the number and severity of patient disease comorbidities, being higher in the GA cohort. The rates of 30-day mortality, ICU transfer, return rates post-discharge, and cholangitis were similar.

Conclusions Performing ERCP under GA rather than under CS is a valuable practice change that should be considered by ERCP-related programs due to its potential to reduce procedure failure and is associated with lower post-ERCP pancreatitis rates.

eP454 LONG-TERM FOLLOW-UP OF ELDERLY PATIENTS WITH PANCREATIC CYSTS: DESCRIBING THE NATURAL HISTORY AND PREDICTORS OF GROWTH, HIGH-RISK TRANSFORMATION, MALIGNANT TRANSFORMATION AND SURGICAL INTERVENTION

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Aims The utility of imaging surveillance of pancreatic cysts (PC) in advanced age is unclear with no identified optimal age cutoff to discontinue surveillance. We aim to describe the natural history of PC in patients older than 60 and evaluate long-term outcomes.

Methods A database of patients with abdominal imaging diagnosis of PC (2008-2020) was reviewed. Patients older than 60 at the time of PC detection were identified as the study group (“elderly”) and were compared to patients younger than 60 (control group; “young”). Only patients with IPMN, MCN and serous cystadenoma were included. Outcomes were measured at 6-12 months, 1-2 years, 3-5 years, 5-10 years and > 10 years. These included growth rate, surgical intervention, high-risk and malignant transformation. Kaplan-Meier estimates, Cox proportional hazards and logistic regression models were performed.

Results A total of 1,169 elderly patients and 408 young patients were identified. Elderly were more likely to have a higher Charlson Comorbidity index at baseline. On follow-up, 1.47 %, 2.68 %, 2.06 %, and 3.91 % elderly developed high-risk transformation at 6-12 months, 1-2, 3-5, 5-10 years respectively, and 23.8 %, 26.8 %, 28.9 %, 33.6 % and 43.8 % elderly developed increased growth respectively. Overall, 6.65 % elderly developed malignant transformation on follow-up. There were no differences in growth, high-risk or malignant transformation between young and elderly. However, elderly were less likely to undergo surgical resection.

Conclusions Except for surgical intervention, age has no impact on other clinically relevant outcomes including high-risk transformation and malignant transformation of PC. Surveillance intervals should be based on morphology and surgical candidacy regardless of age.
**eP455V  ** EUS-GUIDED HEPATOGASTROSTOMY FOR AFFERENT LOOP SYNDROME

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**DOI** 10.1055/s-0042-1745308

A 61 old-year-male, with a medical history of Whipple surgery for pancreatic head adenocarcinoma nine months ago, was admitted for acute cholangitis. The clinical examination noted cholestatic jaundice and scratching lesions. CT scan showed a malignant relapse on the afferent loop with dilation of this afferent loop and upstream dilation of the common bile duct and intrahepatic duct. we performed an endoscopic ultrasound-guided hepatogastrostomy for this afferent loop syndrome with the deployment of fully covered SEMS 80/8 mm with good drainage.

**eP456  ** ENDOSCOPIC ULTRASOUND (EUS) AND ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY (ERCP) PERFORMED IN THE SAME SESSION DON’T INCREASE THE RISK OF SEDATION-RELATED COMPLICATIONS

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**DOI** 10.1055/s-0042-1745309

**Aims** To compare the risk of sedation-related complications of EUS and ERCP performed in the same vs. separate sessions

**Methods** Our study included all patients with EUS and ERCP performed within five days between 01/2017-10/2021. Deep sedation was performed with propofol and midazolam in all cases (bolus regime) by a non-anesthesiologist (registered nurse or physician). Use of opioids (nalbuphine) was also documented. Sedation-related complications were defined as cardiorespiratory instability with a sustained reduction in oxygen saturation to less than 90 % and/ or prolonged hypotension or bradycardia.

**Results** 291 EUS + ERCP cases were performed during the study period, but 29 were excluded (5 cases both EUS + ERCP in general anesthesia, 18 cases with deep sedation by EUS, but ERCP with general anesthesia, 3 cases with sedation related complications by EUS and 2 cases with difficult sedation by EUS which further received ERCP in general anesthesia). The mean age of patients was 69.1 ± 15.9 year (51.9 % male, 32.1 % ASA III score). Indication of procedure was: choledocholithiasis – 56.1 %, pancreaticobiliary malignancy – 29.7 %, and other benign diseases – 14.2 %. EUS-FNA was performed in 27.4 % of cases.

Table 1: Indication of procedure was: choledocholithiasis – 56.1 %, pancreaticobiliary malignancy – 29.7 %, and other benign diseases – 14.2 %. EUS-FNA was performed in 27.4 % of cases.

<table>
<thead>
<tr>
<th>Sedation related complications (%)</th>
<th>EUS + ERCP in the same session (n = 131)</th>
<th>EUS and ERCP in different sessions (n = 131)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of nalbuphine (%)</td>
<td>17.5</td>
<td>39.6</td>
<td>0.0001</td>
</tr>
<tr>
<td>Propofol (mg)/Midazolam (mg)</td>
<td>350 (100–1790)/4 (2–10)</td>
<td>340 (130–910)/5 (1–10)</td>
<td>0.77/ &lt;0.0001</td>
</tr>
<tr>
<td>Duration of the two procedures (min)</td>
<td>56.4 ± 20.8</td>
<td>63.9 ± 18.9</td>
<td>0.008</td>
</tr>
<tr>
<td>Use of nalbuphine (%)</td>
<td>2.3</td>
<td>1.5</td>
<td>0.98</td>
</tr>
</tbody>
</table>

**Conclusions** Performance of EUS and ERCP in the same session did not increase the rate of sedation-related complications and seems to be associated with shorter duration of the interventions and sedation dose.

**eP457  ** PERFORMANCE OF ABDOMINAL ULTRASOUND AND ALBUMIN, BILIRUBIN, AND PLATELETS CRITERIA IN PREDICTING THE ABSENCE OF HIGH-RISK ESOPHAGEAL VARICES

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**DOI** 10.1055/s-0042-1745310

**Aims** Esophageal varices are a serious complication of portal hypertension (PHT). Their diagnosis is based on upper digestive endoscopy (UDE) which is an invasive examination. We aimed to evaluate the performance of abdominal ultrasound (AU) and ABP in the prediction of the absence of high-risk esophageal varices (HRV).

**Methods** We performed a retrospective analysis of data from consecutive cirrhotic patients followed in our department, recruited from January 2010 to December 2019. Patients with a CHILD-pugh score ≤ 7 who had a UGE, AU, and laboratory tests within less than 3 months were included.

**Results** A total of 224 patients were included. Ninety-two had a CHILD-Pugh score ≤ 7 (41.07 %). The average age was 61.47 ± 12.26 years. The sex ratio was 1.3. Viral infection was the most common etiology of cirrhosis (55.4 %). The absence of PHT signs in AU was significantly associated with the absence of HRV (p < 0.001) with an area under the ROC curve (AUROC) of 0.713 [95 % CI:0.588-0.837]. The sensitivity, specificity, the positive predictive value, and the negative predictive value of the absence of PHT signs in AU in predicting the absence of HRV were 70.83 %, 71.66 %, 50 %, and 86 % respectively. The ABP criteria were significantly correlated with the absence of HRV (< 0.001) with AUROC of 0.658 [95 % CI:0.516-0.801]. The sensitivity, specificity, positive predictive value, and the negative predictive value of the ABP criteria in predicting the absence of HRV were 40.74 %, 98,46 %, 91.66 %, and 80 % respectively.

**Conclusions** The AU and the ABP criteria were non-invasive and efficient methods that might be useful to avoid screening endoscopy for detecting high-risk varices.
eP458 PERFORMANCE OF BLEEDING RISK SCORES AND NON-INVASIVE LIVER FUNCTION TESTS IN PREDICTING SIX-WEEK MORTALITY IN ACUTE VARICEAL BLEEDING

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Aims We aimed to evaluate the performance of bleeding-risk scores and non-invasive liver function tests in predicting six-week mortality in acute variceal bleeding (AVB).

Methods This was a retrospective study including consecutive cirrhotic patients hospitalized for an AVB from January 2010 to December 2019. The following bleeding-risk scores were calculated: GB score, AIMS65, and APASL. The following non-invasive tests were calculated: CHILD-Pugh, MELD, Lok-index, cirrhosis discriminant index (CDS), albumin-bilirubin grade (ALBI), platelet-albumin-bilirubin grade (PALBI), fibrosis-index based on 4factors (FIB-4), aspartate-aminotransferase-to-platelet ratio (APR), King’s score, Goteborg-University Cirrhosis Index (GUCI), and aspartate-aminotransferase to alanine-aminotransferase ratio (AAR).

Results A total of 224 patients were included with a mean age of 61.02 ± 13.21 years and a sex-ratio of 1.60. These patients were admitted 518 times to our department for acute decompensation. One-hundred-forty-three admissions were related to AVB (27.6%). The six-week mortality rate was 25.7%. The following scores have been statistically associated with sex-week mortality: AIMS65 (p = 0.01), APASL (p = 0.002), GB score (p = 0.001), FIB-4 (p = 0.003), ALBI (p = 0.023), PALBI (p = 0.037), King’s score (p = 0.039) and CHILD score (p = 0.043). AIMS65 had the best area under the ROC curve (AUROC = 0.877 [95% CI: 0.761–0.993]) followed by APASL (AUROC = 0.847 [95% CI: 0.715–0.978]), ALBI (AUROC = 0.804 [95% CI: 0.609–0.999]), PALBI (AUROC = 0.757 [95% CI: 0.550–0.999]), the GB score (AUROC = 0.747 [95% CI: 0.527–0.966]) and CHILD score (AUROC = 0.601 [95% CI: 0.331–0.872]). At the threshold of 1.5, AIMS65 had a sensitivity and specificity of 99% and 70.1% respectively. At the cut-off of 1.3, ALBI had a sensitivity and specificity of 75% and 70.3% respectively in predicting six-week mortality.

Conclusions Bleeding-risk scores had the best prognostic value in patients hospitalized for an AVB from January 2010 to December 2019. This simple score would be useful in daily clinical practice.

The majority of lymph nodes sampled were from the peri-pancreatic area (n=50, 56%), followed by peri-hepatic (n=15, 17%), celiac (n=14, 16%), para-esophageal (n=4, 4%), peri-gastric (n=3, 3%), mediastinum (n=2, 2%) and para-duodenal (n=2, 2%).

The final diagnosis were benign lymphadenopathy (n=31, 34%) followed by adenocarcinoma (n=23, 26%), lymphoma (n=6, 7%), tuberculosis (TB) (n=5, 6%), sarcoid (n=5, 6%), and neuroendocrine tumour (n=5, 6%). There was insufficient tissue for histological diagnosis in 15 (17%) cases. Sensitivity for malignancy was 78% with a specificity of 100%. Sensitivity for inflammatory disorders was 88%. All the cases with tuberculosis had a positive diagnosis. There were no complications associated with EUS guided sampling.

Conclusions EUS is a highly safe and effective method of tissue acquisition in patient presenting with unexplained lymphadenopathy.

eP460V EUS OF A RARE PRIMARY MEDIASTINAL LEIOMYOMA

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A 29-years-old man presented with a 2-month history of cough, Dyspnea. CT chest revealed large mediastinal mass compressing esophagus and aortic arch. On endoscopy, the mass was compressing the mid esophagus with healthy mucosa. On EUS examination, there was large welldefined hypoechoic mediastinal mass with hyperechoic strands, measuring about 87x50 mm. EUS-FNB was done using 22G acquire needle by slow pull technique. Cytopathological examination with IHC revealed spindle cell proliferation with oval nuclei with positive cytoplasmic reaction for smooth muscle actin & Vimentin and negative for S100, B-catenin and Myogenin; consistent with leiomyoma. Patient was referred for surgical resection.

eP459 ENDOSCOPIC ULTRASOUND; HIGHLY EFFECTIVE IN THE INVESTIGATION OF LYPHDENADENOPATHY OF UNKNOWN CAUSE

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Aims Endoscopic ultrasound (EUS) guided tissue acquisition is an indispensable tool in the diagnostic pathway of upper GI and hepatobiliary cancer. We sought to assess the utility in guiding patient management in patients presenting with lymphadenopathy of unknown cause.

Methods Consecutive patients with lymphadenopathy undergoing EUS-guided lymph node sampling were retrospectively analysed. Recorded variables included patient demographics, procedural characteristics, histological findings and patient management.

Results 90 episodes (males n=51, 57%) were identified over a ten-year period. Median age at EUS was 62 years old (range 13-88 years old). Median size of lymph node sampled was 20mm (range 6-71mm), with a median of 2 passes (range 1-4). A 22 G needle was used in 62 (68.89%) of cases.

The majority of lymph nodes sampled were from the peri-pancreatic area (n=50, 56%), followed by peri-hepatic (n=15, 17%), celiac (n=14, 16%), para-esophageal (n=4, 4%), peri-gastric (n=3, 3%), mediastinum (n=2, 2%) and para-duodenal (n=2, 2%).

The final diagnosis were benign lymphadenopathy (n=31, 34%) followed by adenocarcinoma (n=23, 26%), lymphoma (n=6, 7%), tuberculosis (TB) (n=5, 6%), sarcoid (n=5, 6%), and neuroendocrine tumour (n=5, 6%). There was insufficient tissue for histological diagnosis in 15 (17%) cases. Sensitivity for malignancy was 78% with a specificity of 100%. Sensitivity for inflammatory disorders was 88%. All the cases with tuberculosis had a positive diagnosis. There were no complications associated with EUS guided sampling.

Conclusions EUS is a highly safe and effective method of tissue acquisition in patient presenting with unexplained lymphadenopathy.

eP461 THE ROLE OF ENDOSCOPIC ULTRASOUND FINE-NEEDLE ASPIRATION (EUS-FNA) IN THE DIAGNOSIS OF MEDIASTINAL NODAL DISEASE

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Aims EUS-FNA should be the first choice in diagnosis of mediastinal nodal disease after suspicious findings on CT or PET. Primary goal was confirmation of distribution mediastinal nodal disease considering on age, sex, node lenght and elastography, while secondary goal was determination of sensitivity, specificity and accuracy of the method in enlarged mediastinal lymph nodes.

Methods In a prospective study, we analyzed 31 patients with enlarged mediastinal lymph nodes from January 2019 to December 2020. The study included adult patients who previously had been diagnosed with enlarged mediastinal lymph nodes by imaging (CT or PET). Exclusive criteria was cystic lesions and patients with contraindication for EUS-FNA. FNA was performed in 2 or 3 passes (Olympus EZShot 3Plus) with 19 or 22 gauge needles. The material was sent for cytological analysis.

Results 31 patients were included in the study. The largest number of subjects (16/51.6%) with EUS-FNA was in the age group up to 65 years, 64.5% were men.
The diameter of the enlarged mediastinal lymph nodes in 87.5 % of patients was greater than 3 cm. In the largest number of patients, metastatic cancer was verified (14/45.1 %), followed by lymphoma (5/16.1 %) and granulomatous inflammation (4/12.9 %). Reactive lymphadenopathy was demonstrated in (5/16.3 %) patients and cytological finding in (3/9.7 %) patients was inclusive. Sensitivity of procedure was 70.0 % (95 % CI 34.7-93.3 %), while specificity was 83.3 % (95 % CI 35.9-99.6 %), and accuracy was 75.0 % (95 % CI 47.6-92.7 %). No complications were registered.

Conclusions EUS-FNA should be the first choice in diagnosis of mediastinal nodal disease because of relatively high specificity and accuracy.

eP462V EUS-FNB OF AN UPPER MEDIASTINAL TUMOR

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In this video we present a case of a 68 years old lady, with a history of small lymphocytic lymphoma, complaining about new-onset, progressive chest pain. A PET-CT scan showed a mass in the anterosuperior left side of mediastinum, with a suspicion of an enlarged pathologic lymphnode. Endoscopical ultrasound showed a large mass arising from aortic arch, involving carotid artery and left subclavian artery; tissue collected with fine needle biopsy (FNB) revealed a small cell lung cancer with infiltration of mediastinal pleura.

eP463 PROFITABILITY OF THE SHARKCORE ECHOENDOSCOPY BIOPSY NEEDLE IN THE STUDY OF MEDIASTINAL PATHOLOGY

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Aims Endoscopic ultrasound allows puncture sampling of thoracic structures from the esophagus. Formerly, punctures were performed with fine needles that only allowed cytological diagnosis; devices have now larger-caliber needles, obtaining cell blocks that preserve tissues architecture being possible to perform immunohistochemical techniques to optimize diagnoses. The aim of the study is to evaluate the SharkCore 22G biopsy needle (Covidien-Medtronic) to study mediastinal pathology.

Methods Retrospective, descriptive study of patients who underwent puncture of a mediastinal lesion with SharkCore 22G needle in a second-level hospital between September 2018 and May 2021. All samples were obtained using the slow-pull technique and introduced in formaldehyde.

Results 49 patients were recruited, 71 % were men (median age of 65 years). Target lesion was adenopathy in 87.7 % of cases, the remaining mediastinal masses. Of the 43 biopsied adenopathies, cell block was achieved in 93 %, 100 % in the mediastinal masses being the 100 % primary lung neoplasms. Lymphadenopathy biopsies were diagnostic in 83.7 % cases, diagnoses were: 41.67 % benign lymphadenopathy (46.67 % sarcomatosis), 33.3 % metastases of pulmonary origin, 11.1 % neoplastic urethral origin and 8.33 % gastrointestinal neoplasia. 42.9 % of the no diagnostic biopsies were lymphomas after adenopathy resection. Median number of passes was 2, no complications were recorded.

Conclusions Puncture of mediastinal lesions with SharkCore needle has proven to be safe, allowing the collection of samples with a high rate of cell blocks and high diagnostic yield. It is especially interesting in benign pathologies, when additional techniques such as immunohistochemistry are required and characterization of lymphomas, although abundant material and experience of the pathologist is required.

eP464 STUDY ON THE SAFETY AND EFFICACY OF NOVEL MOTORIZED SPIRAL ENTEROSCOPE IN THE DIAGNOSIS AND THERAPY OF SMALL BOWEL DISEASES: A RETROSPECTIVE MULTICENTRE EXPERIENCE

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Aims We share our experience on the efficacy and safety of Novel motorized spiral enteroscope (NMSE) in small bowel diseases.

Methods In this multicentre retrospective study patients with suspected small bowel diseases undergoing NMSE were included between November 2019-November 2021. Patient demographic details, symptoms, radiologic findings were noted. After informed consent, NMSE was performed under general anesthesia. Procedure details like procedure route, duration, findings, complications, depth of maximal insertion (DMI), therapeutic interventions, and histopathology findings were noted. Study was approved by institutional review board.

Results 44 patients (33M; mean age 42.98 ± 16.43 years) were included. The most common presenting complaints were pain abdomen (n = 27), gastrointestinal bleed (n = 12), and others (n = 20). Abdominal cross-sectional imaging showed ileal and jejunal wall thickening (n = 34), stricture (n = 10) & others (n = 3). NMSE was done via antegrade (n = 13), retrograde (n = 18), bidirectional (n = 13) routes. Others as detailed in Table 1. Panenteroscopy was achieved in six. On NMSE, ulcers/erosions were noted in 70.4 %; stricture in 47.7 %, mass/polyp in 13.64 % & normal in 11.36 %. Polypectomy, argon plasma coagulation and stricture dilatation were done in 1 patient each (Figure 1). The most common histopathological findings were chronic inflammation (n = 24); granulomas (n = 3); eosinophilic infiltration (n = 2) & malignancy (n = 4). Surgery was done in 4 patients while rest were managed medically with immunomodulators (n = 33) and antibacterial therapy (n = 4). Cicrophtyngreal tears (n = 2); ileal tears (n = 1) and hypothermia (n = 1) were the complications.
<table>
<thead>
<tr>
<th>Route of procedure</th>
<th>Depth of Maximum Insertion (Mean ± SD) (in cms)</th>
<th>Procedure Time (Mean ± SD) (in mins)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Total</td>
<td>190.83 ± 124.08</td>
<td>51.73 ± 31.15</td>
</tr>
<tr>
<td>Antegrade (distal to duodeno-jejunal flexure)</td>
<td>211.25 ± 109.59</td>
<td>46.12 ± 18.76</td>
</tr>
<tr>
<td>Retrograde (proximal to ileocecal valve)</td>
<td>119.8 ± 85.8</td>
<td>35.09 ± 13.24</td>
</tr>
</tbody>
</table>

Conclusions NMSE is a useful tool in the diagnosis and therapy of small bowel diseases. It is safe and effective in our cohort of Indian patients.

**eP465 SAFETY AND EFFICACY OF DEVICE-ASSISTED ENTEROSCOPY (DOUBLE BALLOON) FOR EXTRACTION OF PLASTIC STENTS**

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**DOI** 10.1055/s-0042-1745318

**Aims** Evaluate safety and efficacy of device-assisted enteroscopy (double balloon) for removal plastic stents retained in the small intestine.

**Methods** We included 7 cases with migrated plastic stents who required device-assisted enteroscopy (double balloon) attended at the gastrointestinal endoscopy service of the Salvador Zubirán National Institute of Medical Sciences and Nutrition in Mexico City, from August 2011 to December 2021.

**Results** 5 women and 2 men were included. In 5 patients, device-assisted antegrade enteroscopy (double balloon) was performed and in 2 patients device-assisted retrograde enteroscopy (double balloon) was performed. Removal plastic stents was reported in 100% (7/7) of patients. In 1 patient, sealed perforation was present. No complications inherent in the procedure were reported.

**Conclusions** The advent of device-assisted enteroscopy (double balloon) gives us a less invasive option for the extraction of foreign bodies in the small intestine, being safe in most cases.

**eP466 WHICH TYPE OF SMALL-BOWEL CAPSULE ENDOSCOPY IS BETTER? A SYSTEMATIC REVIEW AND META-ANALYSIS**

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**DOI** 10.1055/s-0042-1745319

**Aims** Small-bowel capsule endoscopy (SBCE) is a safe and efficient method for the diagnosis of the pathologies of the small-bowel. Since the development of the SBCE in year 2000, different types of SBCE have been created. The aim of this study was to analyze which of the different types of SBCE has a better diagnostic yield.

**Methods** Extensive medical literature research, using the MESH terms and keywords, in search of studies that compared different types of SBCE. We analyzed the diagnostic yield of all the comparisons and when there were 2 or more studies that compared the same SBCEs, a meta-analysis was realized.

**Results** A total of 8 eligible studies were identified. The indications for the SBCE procedure were overt or/and occult gastrointestinal bleeding in all cases, and 2 studies also included diarrhea and abdominal pain. In 7 studies different types of SBCEs (Mirocam, Endocapsule, OMOM and Capsocam) were compared with PillCam (SB, SB2 and SB3). Three studies compared Mirocam vs Pillcam and two studies contrast Endocapsule vs Pillcam. One study compared SBCEs different to Pillcam (Mirocam vs Endocapsule). Seven studies did not find statistical differences between SBCEs, only one study had a statistical difference (p = 0.02) that favours Mirocam when it was compared to PillCam SB2. This difference was not replayed in the meta-analysis.
eP468  EVALUATION OF LIVER FAT AND FIBROSIS WITH FIBROSCAN IN CELIAC PATIENTS

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Aims  The aim of this study is to determine the fibrosis and adiposity scores with Fibroscan, a noninvasive method in celiac patients, and to determine the factors affecting them.

Methods  Measurements were made with the Fibro Scan device (Echosens, - France) using the M probe of 45 patients who were followed up in our outpatient clinic with the diagnosis of celiac disease(serology + histopathology) and had no known liver disease other than celiac disease. Controlled Attenuation Parameter(CAP score) values were measured in order to evaluate liver fibrosis measurements and hepatic steatosis.

Results  75.6% (34) of the patients were female. The mean diagnosis of celiac disease was 97.87 ± 84.39 months. The mean age of the patients was 42 ± 12.13 years. The mean body mass index(BMI) was 23.88 ± 4.17 kg/m2. The mean TG of the patients was 117.79 ± 69.64 mg/dl,AST mean 21.48 ± 10.27 U/L,ALT mean 22.35 ± 15.30 U/L,ALP mean 75.62 ± 24.55 U/L,GGT mean 14.53 ± 9.63 U/L. The mean HGB was 12.9 ± 1.5 g/dl. The patients’ mean liver function test was 360 dB/m. According to CAP values, 71% of the patients were classified as Stage 0, 11% as Stage 1, 3% as Stage 2, and 15% as Stage 3 fatty liver. There was no statistically significant difference according to gender in CAP value and fibroscan fibrosis scores. A positive correlation was found between CAP score and BMI,LDL,TC, and GGT(p < 0.005).

Conclusions  According to the CAP score of celiac patients, one third of them had stage 1 and higher fatty liver. A statistically significant correlation was found between CAP score and GGT,TC,and DL.

eP469  REDUCED COMPLETION RATES FOR INPATIENT VERSUS OUTPATIENT COLON & PAN-INTESTINAL VIDEO CAPSULE ENDOSCOPY; A NESTED CASE-CONTROL STUDY

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Aims  Inpatient video capsule endoscopy(VCE) is a regular request to gastroenterology services. Limited data exists comparing the effect of admission status on the quality of VCE. This study aimed to compare the quality of inpatient versus outpatient CCE(colon capsule endoscopy) & PIC(pan-intestinal capsule) studies & factors affecting outcomes.

Methods  We performed a retrospective nested case-control study. Patients were identified from a VCE database. Procedures were performed using PillCam Colon2 capsules using a standard bowel prep & booster regimen. For PICs the small bowel sleep mode was manually deselected. Patients had a transit assessment at 30 minutes & received a prokinetic if delayed. Basic demographics & key outcome measures were identified. Outcomes were compared between groups using a Chi2 test. Relevant ORs & NNT were calculated as appropriate.

Results  Overall, 35 inpatients(CCE(n = 6),PIC(n = 29)) & 70 controls were included. Gender profiles were similar, inpatient cases were older & more frequently had PCI procedures(83%). Completion rates were significantly better in outpatients(61%)(OR 3.0, NNH 3) versus inpatients(40%). Gender & age did not affect completion rates. Completion rates were similar for PCI(55%) & CCE(64%) procedures. Preparation quality was similar in inpatients & outpatients respectively. The diagnostic yield for inpatient and outpatient VCE’s were similar; 80% & 74%. More patients were referred for bleeding as an inpatient(80%) versus outpatients(33%) with a similar yield in inpatients(43%(n = 12)) & outpatients(30%(n = 7)).

Conclusions  Inpatient VCE has a role particularly in the setting of acute bleeding however, practitioners should be aware of the increased risk of incomplete studies in inpatient capsules & mitigate against this where possible.

eP470  IS NOVEL POWER SPIRAL ENTEROSCOPY THE HOLY GRAIL IN SMALL BOWEL ENDOSCOPIC EXPLORATION?

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Aims  The initial assessment of the novel motorised Power spiral Enteroscopy in it’s potential to explore the entire small bowel in a shorter duration.

Methods  We performed 45 novel Motorised Power Spiral Enteroscopy (NMPSE) procedures between December 2020 and November 2021. Three trained, experienced endoscopists performed them at Yashoda Hospital, tertiary care centre in Hyderabad, India. Retrospective analysis of technical success, diagnostic yield, complete Enteroscopy rate, procedure time, therapeutic success and adverse events were noted.

Results  Forty patients underwent enteroscopy (NMPSE) with technical success of 88.8%. Two failed intubation despite dilatation and in three pylorus was not negotiable. Antegrade approach used in 32 patients and retrograde in 8 patients. Four required combined approach. Twenty five had obscure GI Bleeding, 14 pain abdomen or imaging suggesting small bowel pathology. One had ileal polyp related intussusception which was managed by Polypectomy. Median duration was 50 min +/- 15 min. Eight cases had complete Enteroscopy including four with combined approach. Biopsies procured in 30 cases. APC of Telangiectasiae was done in 5 patients. Polypectomy in one, retrieval of Capsule Endoscope in one and dilatation of strictures in five patients.

Mild abdominal pain in 6 patients was managed with Paracetamol. One patient required surgery for ileal perforation following dilatation of stricture.
Institutes
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which did not di 35 minutes, in our non–remote-control research. The diagnostic yield was 27 %, the mean physician-patient contact time in the same room was < 10 minutes; the upper gastrointestinal tract of patients with gastrointestinal symptoms have been formed with the help of the remote-control unit of AnX Robotics Inc. while using an artificial intelligence software. Thirty-two patients were included, 59.4 % with suspected CD. The median Eliakim and CECAIic scores were calculated. The Eliakim and CECAIic scores have a strong correlation in assessing panenteric CD activity, and a moderate correlation with inflammatory biomarkers. The application of Eliakim ≥ 3.5 and CECAIic score ≥ 5.5 as the cutoff values for the presence of significant inflammatory activity in patients undergoing pan-CE Eliakim and capsule endoscopy Crohn’s disease activity index (CECAIic) scores and inflammatory parameters.

Methods
Retrospective study, including a cohort of patients with suspected or established CD that underwent Pan-CE PillCam Crohn’s (Medtronic, USA) was approved. A novel quantitative score of inflammation for PillCam Crohn’s, the Eliakim score, has emerged. However, the optimal index for panenteric monitoring disease activity is far from being completely defined. We aimed to evaluate the correlation and accuracy between the pan-CE Eliakim and capsule endoscopy Crohn’s disease activity index (CECAIic) scores and inflammatory parameters.

Results
Thirty-two patients were included, 59.4 % with suspected CD. The median Eliakim and CECAIic scores were 5.5 and 6.5, respectively. We found a very good correlation between Eliakim and CECAIic scores ($r = 0.87, p < 0.001$), and a moderate correlation between Eliakim and CECAIic scores with C-reactive protein ($r = 0.53, p = 0.003$), ($r = 0.44, p = 0.02$), and fecal calprotectin ($r = 0.46, p = 0.02$), ($r = 0.54, p = 0.01$), respectively. In patients with suspected CD, an Eliakim ≥ 3.5 and CECAIic score ≥ 5.5 had a sensitivity of 100 %, and specificity of 84.6 %, and 75 %, respectively, for the diagnosis of CD.

Conclusions
The Eliakim and CECAIic scores have a strong correlation in assessing panenteric CD activity, and a moderate correlation with inflammatory biomarkers. The application of Eliakim ≥ 3.5 and CECAIic score ≥ 5.5 as the cutoff values for the presence of significant inflammatory activity in patients undergoing pan-CE for suspected CD may be useful to establish the diagnosis.

Conclusions
The Novel Motorised Power Spiral Enteroscopy has excellent potential in small bowel exploration with good technical and clinical success. Certain maneuvers help in enhancing the performance. Our journey to achieve holy grail in small bowel exploration is getting closer with advent of novel motorised power spiral Enteroscopy.
In the reported case, MSE was essential for the diagnosis and could lead to definitive treatment.

**eP475  WHEN VILLOUS ATROPHY IS NOT JUST COELIAC – A CASE OF AUTOIMMUNE ENTEROPATHY**

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**DOI** 10.1055/s-0042-1745328

**Aims** Autoimmune enteropathy (AIE) is an extremely rare cause of seronegative villous atrophy that represents a diagnostic challenge for the general gastroenterologist. It can be a life-threatening condition characterised by intractable diarrhoea, severe malabsorption and typical histology with/without AEA given poor sensitivity. First-line treatment is with open capsule budesonide with a response in 85%. There is sparse evidence for using biologics as second-line treatment but more targeted therapy may be appropriate given the now recognised risk of KS.

**eP477V  A RARE CASE OF BOWEL OBSTRUCTION**

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**DOI** 10.1055/s-0042-1745330

A 78 yo male present to the ER with abdominal pain and nausea, laboratories were unremarkable. CT scan evidenced a thickening of the proximal ileum. An anterograde enteroscopy was performed and a 2 cm ulcer was found in ileum. Pathology reported eosinophilic infiltrate (≥50 eosinophiles per HPF). Parasites, bacteria, mycobacteria, and HIV were ruled out. Upper and lower endoscopy were performed. No eosinophiles were observed in samples of esophagus, stomach, and left colon. In the duodenum (54 Eo x HPF), right colon (31 Eo x HPF), and transversum (16 Eo x HPF) were observed. Diagnosis of eosinophilic enteritis was established.

**eP478V  SMALL BOWEL BLEEDING DUE TO SUBEPITHELIAL LESION. THINK BEYOND GIST**

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**DOI** 10.1055/s-0042-1745331

38 yo male, with previous history of upper GI bleeding from duodenal ulcers, not associated to H. pylori. He presented to emergency department with a 5-day melena history. Upper endoscopy and colonoscopy were performed without any significant findings. A videocapsule was then performed and an active site of bleeding was found in terminal ileum. A retrograde double balloon enteroscopy was performed finding a 2 cm ulcerated subepithelial lesion, it was treated with cyanoacrylate and tattooed for subsequent surgery which was performed successfully. A CT scan showed a tumor in terminal ileum with cyanoacrylate. Final pathological report was of Neuroendocrine tumor.

**eP479  INDICATIONS AND DIAGNOSTIC YIELD OF SMALL BOWEL ENDOSCOPY: ANALYSIS OF A LARGE, REAL-WORLD, DATABASE FROM A TERTIARY REFERRAL CENTER IN GREECE**

**Authors** Vazis N.1, Alpani F.1, Mountaki A.1, Koustenis K.1, Veretanos C.1, Tsatsa A.1, Trikoloa A.1, Bekas E.1, Arvanitis K.1, Georgiadi T.1, Karampekos G.1, Vienna E.1, Archavis E.1, Mela M.1, Christidou A.1, Chantziveageliou C.1, Katopodi K.1, Papastengiou V.1, Mantzaris G.1

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**DOI** 10.1055/s-0042-1745332

**Aims** Small bowel capsule endoscopy (SBCE) is a valuable diagnostic tool used for a variety of clinical indications. Using a large database, we aimed at evaluating indications and diagnostic yield of SBCE in a real-world setting.

**Methods** Retrospective analysis of prospectively collected data, including all patients who underwent SBCE over a 18-year period (3/2003-11/2021). Depending on the indication, patients were divided into 3 groups: group A – investigation of obscure gastrointestinal bleeding (overt or occult), group B – investigation of patients with diagnosed or probable Crohn’s disease and group C – all other indications. Diagnostic yield was defined as tests with positive findings that could explain the patient’s symptoms and the indication for SBCE referral.
Results  Overall, 7501 patients were included (men/women: 3860/3641, mean age ± SD: 52.6 ± 27.3 years). The most common indication was obscure gastrointestinal bleeding (group A, n = 4012, 53.4 %) followed by diagnosed or probable Crohn’s disease (group B, n = 2557, 34.1 %) and all other indications (group C, n = 932, 12.4 %). The diagnostic yield of SBCE was 40.4 % for group A, 63.4 % for group B and 26.4 % for group C. The most common finding in group A was angiodysplasia (n = 1253, 31.2 %), in group B lesions compatible with Crohn’s disease (n = 1392, 54.4 %) and in group C ulcers from aspirin and NSAIDs (n = 91, 9.7 %).

Conclusions  Indications of SBCE in a real-world setting are largely consistent with current guidelines. The diagnostic yield of SBCE varies considerably depending on the indication, ranging from 26 % to 63 %.

eP480V  AN UNEXPECTED DIAGNOSIS OF PRIMARY JEJUNAL GASTRINOMA

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DOI  10.1055-s-0042-1745333

Gastrinoma is an infrequent neuroendocrine tumor (NET), is rarely located in an ectopic site and primary jejunal gastrinoma is anecdotal. Sometimes Zollinger-Ellison syndrome (ZES), multiple recurrent ulcers in the gastrointestinal tract due to hypergastrinemia, is associated.

Here we show the video case-report of a 72-year-old man with multiple duodenal and jejunal ulcers, caused by an ectopic gastrinoma, localized at the Treitz ligament level, adhering to the first jejunal loop. Although ectopic site gastrinoma is usually in a difficult position to reach, we should consider endoscopic approach, prime to obtain an histologic diagnosis and to treat this condition.

eP481  THE TIMING OF POSTOPERATIVE ILEOCOLOSCOPY AND THE SEVERITY OF THE RUTGEERTS SCORE: WHAT IS THE LINK?

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DOI  10.1055-s-0042-1745334

Aims  Currently, we recommend performing an ileocolonoscopy between 6 and 12 months to assess endoscopic recurrence in Crohn’s disease (CD) patients after bowel resection using the Rutgeerts score (RS). The aim of our study was to determine the correlation between a first postoperative ileocolonoscopy performed after one year and the severity of the endoscopic recurrence.

Methods  This is a retrospective study including all CD patients, over a period of 6 years (January 2011- January 2017), who have had an ileocolic or ileocolonic resection. Endoscopic recurrence was assessed by ileocolonoscopy, using the RS.

Results  We collected 92 patients, with a mean age of 34.72 ± 12.9 years. CD was ileal (34.8 %) or ileocolonic (56.5 %). The CD behaviour was stricturing in 65.2 %, fistulizing in 6.5 % and mixed in 28.3 % of cases. The main indications for surgery were ileal or ileocolic stenosis (78.3 %), internal or external fistula (4.3 %), intra-abdominal collection (17.4 %). Postoperative colonoscopy was performed before one year in 54.3 % of cases (n = 50) and beyond one year in 45.7 % of cases (n = 42). Endoscopic recurrence (RS ≥12) was observed in 56 % of patients who had a colonoscopy before 1 year, and in 47.6 % for the other group. Endoscopic recurrence was judged to be severe (RS ≥13) in 36 % of cases in the first group, and 28.6 % in the second without any significant difference between the two groups (p = 0.59).

Conclusions  According to our study, a first ileocolonoscopy performed after bowel resection surgery, beyond one year, was not significantly associated with more severe endoscopic recurrence.

eP482V  IGG4 ASSOCIATED MULTIFOCAL ULCERATING STENOSING ENTERITIS

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DOI  10.1055-s-0042-1745335

28 yo female with history of iron deficiency anemia with no gynecological causes and recurrent episodes of abdominal pain and bloating. Upper GI endoscopy and colonoscopy were performed without any significant findings. A video-capsule was performed showing congestive mucosa with ulcers, scars and zones of subterminal at ileum. A retrograde double balloon endoscopcopy was performed finding multiple areas of concentric irregular ulcers with secondary stenosis and scars were observed. Then a hydro pneumatic dilation was performed without complications. The pathology report was consistent with IgG4 Associated Multifocal ULCerating Stenosing Enteritis.

eP483  CONTRIBUTION OF GASTROSCOPY IN NON-VARICOSE UPPER GASTROINTESTINAL BLEEDING AND PREDICTIVE FACTORS FOR THE NEED FOR ENDOCOSCOPIC TREATMENT: A PROSPECTIVE STUDY

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DOI  10.1055-s-0042-1745336

Aims  The aim of our study is to evaluate the contribution of gastroscopy in non-varicose HDH and to assess the factors that predict the need for endoscopic haemostasis.

Methods  This prospective monocentric cross-sectional study of 261 patients, was conducted over a one year period from June 2020 to August 2021 in the department of endoscopic emergency of our Hospital.

Results  The average age of our patients was 58 ± 17 years, with a sex-ratio of 2.57. 91 % of our patients received proton pump inhibitor (PPI) treatment with syringe pump before performing the endoscopy. The main findings at endoscopy were peptic ulcer disease in 39 % of cases, erosive gastritis or duodenitis in 30 % of cases, and esophagitis in 15 % of cases. Active bleeding during endoscopy was identified in 12 % of cases, requiring endoscopic haemostasis in 6.5 % of cases; however, surgery was necessary in 3 patients for bleeding not suitable for endoscopic haemostasis.

In a multivariate analysis following adjustment of confounding factors, only the presence of active bleeding and the use of PPI at syringe pump influenced the need for endoscopic haemostasis. In fact, the presence of active bleeding during endoscopy multiplies the risk of recourse to endoscopic haemostasis by 15, whereas the use of PPI with syringe pump seems to reduce this risk by 75 %.

Conclusions  NVUGIB remains dominated by ulcerative origin. According to our study PPI treatment initiated prior to endoscopy for upper gastrointestinal bleeding may reduce the proportion of patients with stigma of recent haemorrhage and therefore reduces the need for haemostatic treatment.

eP484  EPIDEMIOLOGICAL CHARACTERISTICS AND PREDICTIVE FACTORS OF RECURRENCE AND MORTALITY OF UPPER GASTROINTESTINAL BLEEDING (UGB) UNRELATED TO PORTAL HYPERTENSION (PH)

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DOI  10.1055-s-0042-1745337
Aims UGB is one of the major emergencies in gastroenterology; its overall mortality remains high despite the major advances made in its therapeutic management. The main aim is to describe the epidemiological characteristics of UGB unrelated to PH and identify predictive factors for recurrence and mortality.

Methods Single-center prospective study including 86 patients who presented with UGB unrelated to PH between July 2018 and August 2019. Glasgow-Blatchford (GB) and Rockall scores were used for the assessment. A multivariate analysis by logistic regression is performed to identify the predictive factors of recurrence and mortality.

Results We studied 86 patients, with an average age of 64.86 years and a sex-ratio of 1.96; 68.6% had cardiac co-morbidities. A gastro-toxic drugs intake was reported in 58% of cases. The main results are described in the table below:

<table>
<thead>
<tr>
<th>Mode of revelation</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melena</td>
<td>31 (36%)</td>
</tr>
<tr>
<td>Hematemesis</td>
<td>17 (19.8%)</td>
</tr>
<tr>
<td>Melena with hematemesis</td>
<td>26 (30.2%)</td>
</tr>
<tr>
<td>Rectal bleeding associated with hematemesis or melena</td>
<td>12 (14%)</td>
</tr>
<tr>
<td>Etiology</td>
<td></td>
</tr>
<tr>
<td>Ulcer</td>
<td>49 (57%)</td>
</tr>
<tr>
<td>Esophagitis</td>
<td>10 (11.63%)</td>
</tr>
<tr>
<td>Neoplasms</td>
<td>5 (5.81%)</td>
</tr>
<tr>
<td>Mallory-Weiss syndrome</td>
<td>4 (4.65%)</td>
</tr>
<tr>
<td>Angiodysplasias</td>
<td>3 (3.49%)</td>
</tr>
<tr>
<td>Dieulafy ulcers</td>
<td>3 (3.49%)</td>
</tr>
<tr>
<td>Bulbar diverticulum</td>
<td>1 (1.16%)</td>
</tr>
<tr>
<td>Normal endoscopy</td>
<td>11 (12.8%)</td>
</tr>
<tr>
<td>Endoscopic hemostatic treatment</td>
<td></td>
</tr>
<tr>
<td>Serum adrenaline injection</td>
<td>27 (31%)</td>
</tr>
<tr>
<td>Clips</td>
<td>22 (25.6%)</td>
</tr>
<tr>
<td>Electrocoagulation with argon plasma</td>
<td>13 (15%)</td>
</tr>
<tr>
<td>Combination of these techniques</td>
<td>19 (22%)</td>
</tr>
</tbody>
</table>

23% of patients presented with shock on admission. The median GB score was 10.2 points. Hemorrhagic recurrence was observed in 9% of cases with a GB score > 10. The median Rockall score before and after endoscopy was 3.6 and 5.18 points respectively. This score was significantly high after endoscopy in the recurrence group (p = 0.034).

Mortality rate was 9% (n = 8; 2 directly related to recurrence and 6 due to co-morbidities). Among tested variables; only neoplastic etiology appeared to be significantly associated with a high rate of recurrence (p = 0.01).

Conclusions In our study, ulcerative disease was the primary etiology of UGB in a predominantly male population. Recurrence rate (9%) and overall mortality (9%) were significantly related to the neoplastic etiology.

eP485 COMPARISON OF ENDOSCOPIC BAND LIGATION AND ARGON PLASMA COAGULATION FOR MANAGEMENT OF GASTRIC VASCULAR ECTASIAS IN PATIENTS OF CHRONIC LIVER DISEASE

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DO 10.1055/s-0042-1745338

Aims To compare the efficacy of endoscopic band ligation (EBL) and argon plasma coagulation (APC) for management of gastric vascular ectasias (GVE).

Hypothesis EBL is comparable to APC for management of patients with GVE.

Methods Study period was 6 months i.e. from 1st February 2021 to 1st August 2021; carried out in Department of Gastroenterology and Hepatology, Shaikh Zayed Hospital, Lahore, Pakistan.

Study design was Randomized controlled trial.

20 patients of chronic liver disease who had presented with upper gastrointestinal bleeding due to Gastric Vascular Ectasias were recruited and randomly divided into two groups of 10 patients each. Group A was managed with EBL and group B was managed with APC. After initial endoscopy and therapy (EBL or APC) these patients were followed up at 2 and 4 weeks.

Efficacy of therapy was assessed by using clinical, laboratory and endoscopic parameters

Results One patient from both groups was lost to follow up. In group A (EBL) 3 out of 9 patients (33%) needed repeat therapy at 4 weeks and 6 out of 9 patients (66%) did not need repeat therapy during our study period.

In group B (APC) 5 out of 9 patients (56%) needed repeat therapy at 4 weeks. 4 out of 9 patients (44%) did not need repeat therapy during our study period.

No significant procedure related side effects were encountered in either groups.

Conclusions Endoscopic Band Ligation is comparable in efficacy to Argon Plasma Coagulation for management of Gastric Vascular ectasias, and has a similar side effect profile.

eP486 BLEEDING PEPTIC ULCER: FACTORS OF LONG-TERM RECURRENCE

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Aims The aim of our study is to identify the predictive factors associated with recurrent bleeding in peptic ulcers.

Methods A retrospective study including patients admitted to the emergency department with an upper GI bleeding, between January 2019 and October 2021, due to PUD.

Results PUD was diagnosed in 151 patients, 50.3% of patients admitted to the emergency department for an upper GI bleeding. Long-term recurrence was noted in 17 patients (11.2%). The mean age of the patients with recurrence was 55 years with a male predominance, sex ratio M:F: 4.6: 17.6% of the patients were taking anti-platelet agents, a history of ulcer was found in 23.5% of the cases, active smoking (35.3%) and NSAIIS (17.6%), 58.8% of the patients had been transfused in the previous bleeding episode. The ulcer was bulbar in 82.3% (35.2%) on the posterior surface. The mean size of the ulcers was 14 mm. Forrest stages I and IIb were found in 41.1% of cases. Helicobacter Pylori was present in 58.8% of the cases which was not eradicated in 29.4% of patient non-adherence to treatment or therapeutic resistance and non-adherence to PPI was observed in 23.5% of the cases.

Conclusions The prevention of recurrent bleeding in PUD should not stop only at the treatment of the acute phase, but also at the monitoring and control of certain predictive factors of recurrence. In our study, the recurrence was mainly in bulbar ulcers, the main parameters involved being: active smoking, taking NSAIDs or antiplatelet agents, non-eradication of HP and non-adherence to treatment.
eP487  DYSPHAGIA: CLINICAL MANIFESTATIONS AND ETIOLOGICAL PROFILE (ABOUT 290 CASES) MOROCCAN CENTER EXPERIENCE

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Aims  Dysphagia is a common health problem for consultation in gastroenterology. It is considered to be an alarm symptom requiring the use of endoscopy regardless of the clinical presentation. The purpose of our study is to evaluate the clinical profile and various etiologies of dysphagia.

Methods  This is a retrospective descriptive study were the cases of patients with a complaint of dysphagia were enrolled over the period between (2014-2021). Patients who had an oropharyngeal or neurological cause of dysphagia were excluded.

Results  A total of 290 patients were included. A mean age of our patients is 37 years (16-76) with a chronic tobacco users. Dysphagia was organic in 86%, to solids in 75% and mixed in 25%. The associated signs were: deterioration of general condition (18 cases), regurgitation and odynophagia (33 cases), upper hemorrhage (62 cases).

Conclusions  The purpose of our study is to evaluate the clinical profile and various etiologies of dysphagia.

Out of 1000 GC, two cases (0.2%) of EWDA were identified. The mean age was 44.2 years (range 21-59) and mean weight was 156.9 ± 30.4 kg (mean ± SD; range 93 and 223) and mean BMI 35 ± 7.2 (range 28-64). Some co-morbidity (diabetes mellitus, hypertension, hepatic steatosis) was found out in 18 patients with BMI > 30. The mean BAG gastric stay was six months (range 3.6 -8.1) and 2/3 of patients performed a following gastric bypass; final weight loss at balloon rizomation was 140.6 ± 27.5 Kg with a mean weight loss of 16.3 ± 12.3 kg and a E.W.L. of 18.8 ± 14.2 %

Nausea, vomiting, and abdominal pain for only few days were the most common adverse effects; only 2 patients showed a bad tolerance of gastric balloon with anticipated rizomation in 1 patients there was a spontaneous desuflilation with balloon migration; in one patient the excretion of the balloon was natural, in one we conducted a laparoscopic exploration for ileal enrapment and in one patient the rizomation was performed with colonoscopy for rectal retention

Conclusions  Air filled gastric balloon represents an successfully bridge between lifestyle modification and surgery; BAG balloon is an efficiency endoscopic method for weight loss with good tolerability; few but severe side effects may happen.
eP491 PROTEIN KINASE B AS A PREDICTOR OF METASTATIC GASTRIC ADENOCARCINOMA

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Aims To study the expression of the PI3K/AKT/mTOR pathway in gastric adenocarcinoma.

Methods Enrolled patients were divided into 2 groups, group (1) included 23 patients with metastatic gastric adenocarcinoma and group (2) included 10 patients with non-metastatic disease.

Results The age ranged from 52.5 to 70 years, 66.7% were males & 33.3% were females. The antrum was the most commonly affected site (33% of cases). TNM staging was as follows: T1N0M0 in 21.2%, T1N1M0 in 39.4%, T2N0M0 in 3%, T3N0M0 in 6.1%, T2N1M0 in 21.2% & T1N3aM0 in 9.1% of cases. The mTOR expression was positive in 54.5% of cases, AKT expression was positive in 72.7% of cases and PI3K expression was positive in 36.4% of cases with significantly higher expression of AKT in metastatic (87%) than non-metastatic disease (40%), P<0.010. AKT (protein kinase B) score was significantly higher in metastatic than non-metastatic disease. P<0.028. AKT score at cutoff value of more than 3 was a statistically significant discriminator between metastatic and non-metastatic disease, AUC = 0.743, P<.014, sensitivity = 87% & specificity = 60% (curve).

Conclusions Protein kinase B (AKT) expression may discriminate between metastatic and non-metastatic gastric adenocarcinoma.

Fig. 1

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Endoscopy 2022; 54: S1–S303 | © 2022. European Society of Gastrointestinal Endoscopy. All rights reserved.
Conclusions  ESG showed a remarkable short-term efficacy in our series and a good safety profile and applies as a good alternative for the treatment of obesity.

eP494  THE ROLE OF ENDOSCOPIC SUBMUCOSAL DISSECTION IN THE MANAGEMENT OF GASTRIC INFLAMMATORY FIBROID POLYPS: A SINGLE-CENTER EXPERIENCE

Authors  Dias E.1, Marques M.1, Santos-Antunes J.1, Baldaque-Silva F.2, Moutinho-Ribeiro P.1, Macedo G.1

Institutes 1 Centro Hospitalar de São João, Porto, Portugal; 2 Karolinska University Hospital and Karolinska Institute, Stockholm, Sweden


Aims  To evaluate safety and effectiveness of endoscopic submucosal dissection in the management of gastric inflammatory fibroid polyps not amenable to resection with snare polypectomy.

Methods  A retrospective observational study of all consecutive patients who undergone endoscopic submucosal dissection for gastric inflammatory fibroid polyps between January 2011 and December 2020 was performed.

Results  There were 9 cases of gastric inflammatory fibroid polyps resected by endoscopic submucosal dissection. Most patients were female (7/9) with mean age of 62.2 years. Most patients (5/9) were symptomatic and reported dyspepsia (4/9) or vomiting (1/9). All gastric inflammatory fibroid polyps were described as solitary anal subepithelial lesions with mean diameter of 16.7 mm that, at endoscopic ultrasound, appeared well-circumscribed and homogeneous lesions located at muscularis mucosa and submucosa without deeper invasion. All lesions were successfully resected en-bloc and complete resection with free margins was obtained in 8/9 specimens. Adverse events were reported in 2/9 cases including one intra-procedural bleeding successfully controlled with hemothostatic clips and one aspiration pneumonia that evolved favorably. Mean follow-up duration was 33.7 months (range 3-120) and no delayed complications or cases of recurrence were detected during this period.

Conclusions  Endoscopic submucosal dissection appears safe and effective for resection of gastric inflammatory fibroid polyps that present as large subepithelial lesions, if performed by experienced endoscopists after adequate characterization by endoscopic ultrasound, with high rates of technical success and low recurrence rates.

eP495  CLINICAL AND ENDOSCOPIC FINDINGS IN GASTROINTESTINAL AMYLOIDOSES: A RETROSPECTIVE SINGLE-CENTER STUDY

Authors  Dias E.1, Santos-Antunes J.1, Marques M.1, Villas-Boas F.1, Morais R.1, Santos A.L.1, Lopes J.1, Carneiro F.1, Macedo G.1

Institute 1 Centro Hospitalar de São João, Porto, Portugal


Aims  To describe the main clinical and endoscopic characteristics of gastrointestinal amyloidosis and evaluate its prognostic impact.

Methods  A retrospective study including all patients with histological diagnosis of gastrointestinal amyloidosis between January 2010 and December 2019 was performed.

Results  A total of 9 patients were identified, with mean age of 57.1 years and female predominance (6/9). The most common type was AA amyloidosis (5/9), followed by AL amyloidosis (3/9). Globally, the most commonly affected gastrointestinal segment was the stomach (6/9), followed by duodenum (4/9) and colon (3/9). There was involvement of more than one gastrointestinal segment in 3 patients. The most common clinical symptoms were diarrhea (4/9), weight loss (3/9), nausea and vomiting (2/9) and rectal bleeding (2/9). One patient was asymptomatic. Abnormal endoscopic findings related to amyloid infiltration were found in 7 patients, including areas of erythema (4/7), duodenal lymphangiectasia (2/7), polypoid lesions (2/7) or nodular mucosal surface (1/7). In the remaining 2 patients, no endoscopic abnormalities were found. Amyloidosis was restricted to gastrointestinal tract in 3/9 patients, whereas in the remaining (6/9), other organ systems were involved, most commonly kidney (5/9), heart (3/9) and peripheral nervous system (2/9). During follow-up, three patients died, which translates into an overall mortality rate of 33 %. Median survival was 30 months (17.99-42.00, CI 95 %).

Conclusions  Gastrointestinal involvement by systemic amyloidosis is a rare disease that often presents with nonspecific clinical manifestations and variable endoscopic findings. It is associated with high mortality and a high index of suspicion is essential to obtain an early diagnosis.

eP496  A VERY RARE CAUSE OF DIGESTIVE HEMORRHAGE

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Institute 1 Centro Hospitalar Tondela-Viseu, Gastroenterology, Viseu, Portugal


Aims  Case report

Methods  Results  This is a case study of an 82-year-old woman with a history of hypercoagulated atrial fibrillation, microcystic anemia and excised left genit al malignant lentigo in 2018. She was admitted to the emergency department due to asthenia and decreased strength of the inferior limbs with two days of evolution.

No visible blood loss was evident. She presented a history of darkened feces although she was under oral iron therapy. In the objective examination she had pale mucous membranes and a systolic murmur. Abdominal and neurologic examination were normal. Blood analysis: hemoglobin 6.5g/dL, INR 13.08 and urea 132mg/dL. She underwent erythrocyte concentrate transfusion and reverted the iatrogenic hypercoagulation. Abdominal ultrasound revealed thickening of the gastric antrum and multiple adenopathies nearby the head of the pancreas. Upper digestive endoscopy revealed several circular and friable, black papular lesions in the body and fundus gastric and duodenal bulb, with depressed center and with stigmata of recent hemorrhage. Biopsies of the lesions were performed, whose histology revealed malignant melanoma metastases. From the complementary study, CT-TAP showed multiple pulmonary, mediastinal and peritoneal nodular formations, suggestive of secondary lesions. After a multidisciplinary assessment, it was decided the admission to the Palliative Care Unit.

Conclusions  Malignant melanoma has a predisposition to metastasise to the GI tract. This case illustrates an unusual form of manifestation of this neoplasm which was identified in the sequence of iatrogenic coagulation alteration. The case highlights the rarity of the collected iconography.

eP497  A DEEP-LEARNING BASED SYSTEM FOR DIAGNOSING GASTRIC NEOPLASMS UNDER WEAK MAGNIFICATION

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Aims  To train and evaluate a deep-learning based system aimed at diagnosis gastric neoplastic lesions under weak magnification of upper gastrointestinal endoscopy, and explore its diagnostic performance.

Methods  To develop the algorithm for diagnosing neoplasms under weak magnification (CNN1), a total of 3533 images (including 1464 neoplastic lesions and 2069 non-neoplastic lesions) from the Digestive Endoscopy Center of Renmin Hospital of Wuhan University from December 2017 to January 2021 were selected. 3014 were used for training and validation, 519 were used for internal test. 74 videos were selected randomly by computer-generated numbers, including 17 neoplastic lesions and 57 non-neoplastic lesions, and the video clips...
of white light and weak magnifying examination of lesions were extracted and edited to form a video test set. The algorithm for diagnosing gastric neoplasms under white light (CNN2) have been developed in our previous work. In the video test, lesions will be firstly determined by CNN2 and then sent to CNN1 for further diagnosis. If CNN2 determined a lesion as non-neoplastic, the process will be ended and the diagnosis will be output immediately.

**Results**
The sensitivity and specificity of CNN1 in the image test set were 86.13% and 73.68%, respectively. In the video test, the sensitivity and specificity of CNN2 were 100% and 70.18%, respectively. The specificity was increased to 82.46% when CNN1 and CNN2 combined.

**Conclusions**
The deep-learning based system can accurately identify gastric neoplastic lesions. When combined with the white-light based algorithm, the specificity was improved significantly. The system has a potential role for clinical application.

**eP498  BAND LIGATION VS HOT SNARE POLYPECTOMY FOR GASTRIC POLYPS IN CIRRHOTIC PATIENTS, AN EARLY RESULTS FROM CLINICAL TRIAL**

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**DOI**
10.1055/s-0042-1745351

**Aims**
Hot snare polypectomy (HSP) is considered to be the standard technique for none invasive gastric polyps. But, safety in cirrhotic patients is questionable.

**Methods**
A randomised single-blinded clinical trial was done at the National Liver Institute, Egypt after patients consent to participate. 100 cirrhotic patients, with at least 1 polyp in the stomach, were recruited for the study, 50 in each group (group 1 band ligation and group 2 HSP).

**Results**
Demographic data and general patients’ characteristics are similar between the groups. Age Mean ± SD (57.5 ± 6.26) and (59.6 ± 5.83) for groups 1 and 2 respectively. Child class was (B 17 and 14) (C 33 and 36) patients for groups 1 and 2 respectively. General polyps’ characteristics are present in Table 1.

There is a significant difference in procedure time with mean ± SD (15.1 ± 3.80 vs 36.6 ± 6.72, p = 0.001) favouring the band ligation. The number of patients that needed control of intraprocedural bleeding was zero in group 1 and 10 patients (8 have Argon plasma coagulation and 2 Injection of diluted adrenaline) in group 2.

| Table 1 |
|---|---|---|
| **Band ligation polypectomy** | **Hot snare polypectomy** |
| No of polyps range | 1-4 | 1-4 |
| Size of polyps | 1.46 ± 0.42 | 1.52 ± 0.45 |
| Type of polyps. Sessile | 22 | 27 |
| Pedunculated | 28 | 23 |
| Location of polyps. Antrum | 30 | 26 |
| Body | 13 | 17 |
| Antrum & body | 2 | 0 |
| Fundus | 5 | 7 |

**Conclusions**
Gastric polyps Band ligation is considered a safer and handy procedure in patients with liver cirrhosis.

**eP499  WERNICKE ENCEPHALOPATHY AFTER INTRA- GASTRIC BALLOON PLACEMENT**

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**DOI**
10.1055/s-0042-1745352

**Aims**
Intragastric balloon (IGB) therapy is a minimally invasive, temporary method of inducing weight loss. During the first week, most patients will develop nausea and vomiting. Wernicke encephalopathy (WE) is an acute syndrome characterized by the classic triad of ataxia, eye movement disorders, and mental status change. It occurs in the setting of poor nutrition, recurrent emesis, and other conditions related to Thiamine deficiency (vitamin B1). WE requires emergent treatment to prevent neurologic morbidity and death. The aim of this case report is to draw attention to the possible onset of Wernicke’s syndrome during IGB therapy.

**Methods**
We present a case of a 65-year-old woman who underwent IGB therapy. Her body mass index (BMI) was 37 Kg/m². Since the placement of the balloon, the patient had had frequent vomiting that she considered normal and did not informed her endoscopist doctor. 3.5 months later she arrived at the hospital and was admitted for bradypsychia, memory deficit, disorientation in time, ocular abnormality (nystagmus), and ataxia. An immediate clinical diagnosis of WE was made and the balloon was withdrawn. Subsequent laboratory studies confirmed thiamine deficiency. A brain-MRI showed no abnormalities.

**Results**
Prompt parenteral administration of thiamine was made. After the completion of parenteral treatment, she was discharged with an improvement of the symptoms.

**Conclusions**
There have been few reported cases of WE related to IGB placement. We must alert physicians to this infrequent but serious adverse event. Patients should be informed that correct monitoring and follow-up are essential to prevent serious complications.

**eP500  ENDOSCOPIC SURVEILLANCE IN AUTO- IMMUNE GASTRITIS: 3-YEAR FOLLOW-UP SEEMS APPROPRIATE**

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**DOI**
10.1055/s-0042-1745353

**Aims**
Autoimmune atrophic gastritis (AAG) is an atrophic gastritis restricted to the corpus and it represents a risk factor for the development of gastric cancer. European guidelines suggest a follow-up between 3 and 5 years for patients harbouring this condition. We aimed to investigate the occurrence of gastric neoplastic lesions in AAG patients at a 3-year follow-up.

**Methods**
A longitudinal cohort study of 122 AAG patients was performed. Endoscopic surveillance was performed 3 years after diagnosis with the use of electronic chroendoendoscopy and target biopsies were performed when intestinal metaplasia was recognized, otherwise, biopsies were performed according to the updated Sydney system.

**Results**
Females were 74.6% and the median age was 65(35-87) years. At follow-up 11 lesions were found: 6(4.9%) type-1 neuroendocrine neoplasms, 5(4.1%) epithelial lesions of those 2(1.6%) were low-grade dysplastic lesions and 3(2.5%) were intestinal-type gastric cancer. Two(18.2%) patients were OLGA I and 9(81.8%) were OLGA II. Only one(9.1%) patient with type-I neuroendocrine neoplasm had first-degree familiarity for gastric cancer, whilst none of the patients with gastric cancer or epithelial dysplastic lesions. All the lesions were endoscopically treated by endoscopic mucosal resection or endoscopic submucosal dissection, except two gastric cancers that required surgery. All the patients are alive and the treatment was curative.

**Conclusions**
AAG is a high-risk condition for the development of gastric lesions as 11 lesions were found at 3-year-follow-up suggesting this time interval seems
appropriate and safe. The appropriateness and safety of a longer time interval for endoscopic surveillance in patients with AAG need clarification.

**EP501** MOLECULAR ASPECT OF THE RESISTANCE OF HELICOBACTER PYLORI TO METRONIDAZOLE AND CLARITHROMYCIN AND ITS ASSOCIATION WITH THE VIRULENCE FACTOR CAG A IN A MOROCCAN POPULATION

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**Aims** The aim of our study is to determine the prevalence of resistance of H. pylori to metronidazole and to clarithromycin in a Moroccan population infected with H. pylori and to study the impact of its virulence factor cagA on its resistance to antibiotics.

**Methods** A prospective study including 195 consulting patients in the gastroenterology department. Consent patients underwent esogastroduodenal fibroscopy. Detection of H. pylori, resistance to clarithromycin, metronidazole and determination of the cagA gene were performed by PCR from gastric biopsies.

**Results** Our population consists of 89 (48.64%) men and 106 (54.35%) women. The average age of our population is 50 ± 16 years. Prevalence of H. pylori infection is 94.9% (185/195). The rate of resistance of H. pylori to metronidazole and to clarithromycin were 62.7% and 14.6% respectively. The rate of resistance to metronidazole was similar in cagA positive strains and in cagA-negative strains [63% (n = 44/70) vs 63% (n = 72/115)]. The rate of resistance to clarithromycin was slightly elevated in patients infected with strains of H. pylori cagA negative compared to cagA positive strains [18.6% vs 11.6%] (P-value = 0.49).

**Conclusions** Our study revealed a very high prevalence of resistance to metronidazole unlike clarithromycin. Also, Cag A status is not significantly associated with antibiotic resistance in our work. Knowing the rate of antibiotic resistance is crucial in choosing an appropriate and effective first-line empirical treatment for eradication of H. pylori infection.

**EP502** GENETIC STUDY OF THE VIRULENCE FACTORS CAG A AND VARA OF HELICOBACTER PYLORI AND THEIR IMPLICATION IN GASTRIC CARCINOGENESIS

**Authors** Essaidi I.1, Elyounsi I.2, Jouimyi M.R.1, Bounder G.1, Boura H.1, Benomar H.4, Zerouali K.3, Maachi F.3

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**Aims** The aim of our work is to study the association of genetic polymorphisms in the cagA and vacA genes with the risk of developing gastric lesions.

**Methods** The present study was carried out on 200 patients infected with H. pylori and divided into 121 cases of chronic gastritis, 51 cases of atrophic gastritis and 28 cases of intestinal metaplasia. Genotypic characterization consisted of determination of vacA subtypes and cagA status by PCR from gastric biopsies.

**Results** Two hundred patients with H. pylori infection were included in the study, 100 (50%) men and 100 (50%) women. The average age of our population is 50 ± 16 years. It is noted that the frequency of the cagA-vacA combination (non-virulent strain) (s2 / m2 / i2 / d2-cagA-negative) decreases with the progression of gastric carcinogenesis: 52% in chronic gastritis, 41.1% in atrophic gastritis, and 21.4% in intestinal metaplasia. Conversely, the frequency of the cagA-vacA combination, the most virulent strain (s1 / m1 / i1 / d1-cagA-positive) increases with the progression of gastric carcinogenesis: 11.5% in chronic gastritis, 15.6% in atrophic gastritis, and 42.8% in intestinal metaplasia.

**Conclusions** We conclude that the virulence of cagA-vacA combinations correlates with the progression of gastric carcinogenesis and the detection of genetic polymorphisms of the cagA and vacA genes could be used for the specific characterization of virulent strains of H. pylori responsible for the development of severe gastric lesions. These data may help improve patient management for early detection of patients with high risk of gastric cancer.

**EP503** PREVALENCE OF GASTRIC PRECURSOR LESIONS IN THE POPULATION WITHOUT PREVIOUS ENDOSCOPIC STUDY. PRELIMINARY ANALYSIS

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**Institutes** 1 Hospital Universitario Rio Hortega, Gastroenterology Department, Valladolid, Spain; 2 Hospital Universitario Rio Hortega, Gastroenterology Department, Valladolid, Spain

**Aims** Gastric cancer (GC) is the fifth most common cancer worldwide. The purpose of this study is analyse the incidence of preneoplastic lesions (PN) in our population.

**Methods** This is a cross-sectional study, we have included patients referred to the endoscopy unit for gastroscopy. Exclusion criteria were: treatment with

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S269
proton pump inhibitors (PPIs) or antibiotics, surveillance of PN and prior investigation and/or treatment of H. pylori (HP). Biopsies were taken according to Sydney protocol. In each biopsy the presence of H. pylori, non-atrophic gastritis, atrophic gastritis, intestinal metaplasia, dysplasia or gastric cancer was determined. To evaluate the histological inflammation we used the Operative-Link on Gastric-Assessment (OLGA) and the Operative-Link on Gastric-Intestinal Metaplasia (OLGIM).

**Results** We included 100 patients. 61% were women, aged between 17 and 86 years (mean 52 ± 17 SD). The indication of gastroscopy was: dyspepsia (64%), vitamin B12 deficiency (19%), iron deficiency anemia (13%), ulcers disease (4%). Smoking habit: no smokers (67%); smokers (19%) and former smokers: 14%. HP is present in the antral gastric mucosa in 31% of patients. We don’t find relationship between OLGIM or OLGA stage and gender, smoking habit and HP.

**Table 1** The OLGA and OLGIM stages incidence in our population.

<table>
<thead>
<tr>
<th></th>
<th>OLGA</th>
<th>OLGIM</th>
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<tbody>
<tr>
<td>Stage 0</td>
<td>69%</td>
<td>88%</td>
</tr>
<tr>
<td>Stage 1</td>
<td>20%</td>
<td>0</td>
</tr>
<tr>
<td>Stage 2</td>
<td>10%</td>
<td>5%</td>
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<tr>
<td>Stage 3</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>Stage 4</td>
<td>0</td>
<td>2%</td>
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</table>

**Conclusions** -The incidence of gastric precursor lesions is low in our population.

- The severity according to the OLGIM classification increases significantly with age. According to these results gastroscopy in the young population could be avoidable, at least in dyspepsia.

**eP504** CLINICAL BEHAVIOR AND LONG-TERM OUTCOMES OF FUNDIC GLAND POLYPS

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**DOI** 10.1055/s-0042-1745357

**Aims** Fundic gland polyps (FGPs) are the most common gastric polyps and have been regarded as benign lesions with little malignant potential. However, progression data from large series are lacking. The aim of this study was to evaluate the clinical behavior and long-term outcomes of FGPs.

**Methods** Data from all patients histologically diagnosed with FGPs from January 2015 to November 2021 in a single tertiary center were retrospectively analyzed.

**Results** A total of 233 patients were included, the majority female (61.4%), with a median age of 69 years old (IQR 61-76). Thirty-five (17.4%) individuals were taking antithrombotic drugs and 16 (8.0%) were under anticoagulants. 127 (63.2%) patients underwent ESD for esophagogastroduodenal lesions and 74 (36.8%) for colorectal tumors. At the end of the procedure, 8 (4.0%) patients had prophylactically applied hemostasis on the post-ESD ulcer. The tumor size was 37.5 mm in the hemostasis group and 25.0 mm in the control group (p = 0.013). In the hemostasis group, the median resection time was 150 min and in the control group it was 60 min (p = 0.002). The total post-ESD bleeding rate was 5.0%, on average 2 days after the procedure. Although there was no case of bleeding in the hemostasis group, the post-ESD bleeding rate was not significantly different compared to the control group (p = 0.509). Anticoagulant use was an independent risk factor for post-ESD bleeding (p < 0.001).

**Conclusions** In our cohort, hemostasis did not demonstrate a significant effect on the prevention of post-ESD bleeding. Nevertheless, it should be considered in larger tumors, longer procedures and hypocoagulated patients.

**eP505** HEMOSTATIC POWDER SPRAY – A GOOD OPTION TO PREVENT BLEEDING AFTER ENDOSCOPIC SUBMUCOSA DISSECTION?

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**DOI** 10.1055/s-0042-1745358

**Aims** Endoscopic submucosal dissection (ESD) has been recommended as a standard treatment for gastrointestinal neoplasms and can provide excellent long-term survival. However, post-ESD bleeding is a severe adverse event. The aim of this study was to investigate whether hemostatic powder spray (hemospray) can prevent post-ESD bleeding.

**Methods** We collected retrospective data from all patients who underwent ESD in a single tertiary center between September 2019 and November 2021.

**Results** A total of 201 patients were included, the majority male (55.2%), with a median age of 69 years old (IQR 61-76). Thirty-five (17.4%) individuals were taking antithrombotic drugs and 16 (8.0%) were under anticoagulants. 127 (63.2%) patients underwent ESD for esophagogastroduodenal lesions and 74 (36.8%) for colorectal tumors. At the end of the procedure, 8 (4.0%) patients had prophylactically applied hemostasis on the post-ESD ulcer. The tumor size was 37.5 mm in the hemostasis group and 25.0 mm in the control group (p = 0.013). In the hemostasis group, the median resection time was 150 min and in the control group it was 60 min (p = 0.002). The total post-ESD bleeding rate was 5.0%, on average 2 days after the procedure. Although there was no case of bleeding in the hemostasis group, the post-ESD bleeding rate was not significantly different compared to the control group (p = 0.509). Anticoagulant use was an independent risk factor for post-ESD bleeding (p < 0.001).

**Conclusions** In our cohort, hemostasis did not demonstrate a significant effect on the prevention of post-ESD bleeding. Nevertheless, it should be considered in larger tumors, longer procedures and hypocoagulated patients.

**eP506** CONTRIBUTION OF ROUTINE DUODENAL BIOPSIES IN THE DIAGNOSIS OF CELIAC DISEASE IN PATIENTS WITH IRON DEFICIENCY ANEMIA

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**DOI** 10.1055/s-0042-1745359

**Aims** Celiac disease (CD) is a well-known cause of iron deficiency anemia (IDA). Histological examination is a corner-stone in reaching the diagnosis. The aim of our study is to assess the role of duodenal-biopsies in patients presenting with IDA and to examine the prevalence of CD in these patients.

**Methods** We reviewed a retrospectively-collected-data on all patients who underwent gastroscopy for the investigation of IDA in our endoscopy-unit between January 2018 and August 2021. Anemia was defined as hemoglobin < 135g/L in males and < 120g/L in females. All our patients had a ferritin < 15μg/L. Results of histological examination were stratified according to the Modified-Marsh-Oberhuber-classification.

**Results** A total of 97 patients had an upper-gastro-intestinal (GI) endoscopy for the investigation of unexplained-IDA. There were 33 men and 64 women. The mean age was 47.18 ± 17 years. Of the 97 upper GI endoscopy, 79 (81.4%) were macroscopically normal. A mucosal abnormality was established in 18 patients including reduction or scalloping of Kerckring folds (n = 7, 7.2%), nodular mucosa with mosaic pattern (n = 5, 5.1%), mucosal ulceration (n = 4, 4.1 %), sessile polyp (n = 1, 1.1%), congestive duodenal mucosa (n = 1, 1.1 %). Histological abnormalities were noted in 15.5% (n = 15) of cases in which 11 patients (11.3%) displayed histological features of CD consistent with Modified-Marsh-Oberhuber-classification type MARSH II (n = 1, 1.1 %), type MARSH III (n = 7, 7.2 %) and type MARSH VI (n = 3, 3.1 %). Approximately, a quarter of newly diagnosed cases of
CD have an endoscopic appearance that is entirely normal. Only one patient over 50 years old was diagnosed with CD. Abnormal biopsies consistent with CD had a higher-prevalence in females (8.2% vs 3% in males).

**Conclusions** Duodenal biopsies obtained during IDA evaluation gives a 11.3% diagnostic benefit in CD. Therefore, this practice should be systematically included in the diagnostic work-up of patients with IDA even if the endoscopic appearance of the mucosa is normal. However, our study shows low rates of CD in patients over 50 years.

**eP507** **CORRELATION BETWEEN PORTAL HYPERTENSIVE GASTROPATHY AND SEVERITY OF CIRRHOSIS**

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**Institute** 1 Hôpital Farhat Hached, Sousse, Tunisia

**DOI** 10.1055-s-0042-1745360

**Aims** Portal hypertensive gastropathy (PHG) is a common endoscopic finding in cirrhotic patients. Its relation with the severity of liver disease is controversial. The aim of this study was to determine the association of PHG with cirrhosis severity.

**Methods** We retrospectively collected data of all consecutive patients with cirrhosis of various aetiologies in our department. All patients underwent esophagogastroduodenoscopy (EGD). Findings related to PHG were noted. PHG severity was assessed and graded according to the NIEC classification. Liver disease severity was assessed by Child-Pugh and MELD scores.

**Results** A total of 200 patients were included in this study. There were 88 male (44%) and 122 female (56%). The mean age was 57 ± 15 years old. The mean Child-Pugh and MELD scores were 8 and 15 respectively. Patients’ Child-Pugh classes were distributed as follows: Child-A (22%), Child-B (55%) and Child-C (23%). PHG was observed in 142 (71%) patients, of which 28.8% (n = 41) had mild PHG, 50% (n = 71) had moderate PHG while 21.2% (n = 30) had severe gastropathy. PHG was neither correlated to MELD-score (p = 0.3) nor Child-Pugh score (p = 0.2) nor Child-Pugh class (A: p = 0.8; B: p = 0.2; C: p = 0.2). Regarding gastropathy severity, severe form was just as well found to be not associated with the previous parameters: MELD-score (p = 0.5), Child-Pugh-score (p = 0.8) and Child-Pugh class (A: p = 0.2; B: p = 0.2; C: p = 0.8).

**Conclusions** In our study, neither the presence of PHG nor its severity were correlated to the severity of cirrhosis.

**EP508** **PLACE OF A SYSTEMATIC UPPER GASTROINTESTINAL ENDOSCOPY IN CROHNS DISEASE**

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**DOI** 10.1055-s-0042-1745361

**Aims** Esophagogastroduodenoscopy (EGD) with the realization of biopsies, in Crohn’s disease (CD), researches upper locations of the disease. Our study aimed to study the interest of systematic EGD with anatomopathological study in the detection of upper CD locations.

**Methods** A retrospective study was conducted involving all patients with CD followed in our center over a period of 4 years (January 2016- January 2020).

**Results** 56 patients with CD were included in this study, of which 53.6% were female. The mean age was 33.29 years. In our series, Only 19.23% (n = 5) of the CD had a higher-prevalence in females (8.2% vs 3% in males). The most frequent endoscopic abnormalities found were: fundic gastropathy that was congestive in 26.92% of cases (n = 7) and nodular in 7.69% (n = 2); congestive antropathy in 46.15% (n = 12) and nodular in 15.38% (n = 4); ulcerated or congestive bulbilis in 7.69% (n = 2) and 19.23% (n = 5), respectively. Duodenitis was observed in 11.53% of patients (n = 3). Anatomopathological examination, noted chronic active gastritis in 66.7% of patients who have had systematic EGD, vs 92.9% in symptomatic patients, without statistically significant difference (p = 0.11), the same for presence of granuloma (16.7% in the 1st group vs 14.3% in the 2nd group, p = 0.64), and the presence of a duodenal lymphocytic infiltrate (8.3% vs 0%, p = 0.46).

**Conclusions** According to our study, a systematic EGD, in CD, has an important contribution in the detection of the upper localizations which constitute a severity factor of the disease.

**eP509** **UPPER ENDOSCOPY FINDINGS IN PATIENTS WITH FAMILIAL ADENOMATOUS POLYPOSIS**

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**DOI** 10.1055-s-0042-1745362

**Aims** It is known that patients with familial adenomatous polyposis (FAP) are at risk for other cancer mainly arising from other parts of the gastrointestinal (GI) tract. Therefore, this study was aimed to assess the upper endoscopy findings observed in our cohort.

**Methods** Twenty patients diagnosed with FAP who underwent forward- and side-view upper endoscopy were included. Demographic information, lesion’s morphology and histopathology were assessed. If intervention was performed, the rate of immediate and delayed complications were analyzed.

**Results** The mean age of the cohort was 35.1 ± 9.96, 75% were male. Gastric polyps were observed in 60% of patients (12/20) with fundic gland polyps (FGP) to be the most common type. Duodenal adenomas were found in 85% of patients (17/20). While most of the patients had tubular adenoma with low grade dysplasia (LGD), 11% showed high grade dysplasia (HGD) and ampullar adenocarcinoma was observed in one patient (5%). Average duodenal adenoma size was 12 mm (+9.23). Lesions>10 mm in size, found in 9 patients, were resected by means of endoscopic mucosal resection (EMR). Massive post-EMR GI bleeding was observed in two patients requiring emergency endoscopy with uneventful outcomes. Two patients were referred for elective surgery due to large (30 mm) postbulbar adenomas which appeared difficult for EMR (Spigelman stage IV).

**Conclusions** The most common findings were duodenal adenomas following FGP. We found that the prevalence of gastroduodenal lesions in our cohort is high therefore this study reaffirms the need for detailed and routine evaluation of upper GI lesions in patients with FAP.

**eP510** **UNDERWATER ENDOSCOPIC MUCOSAL RESECTION (EMR) FOR TREATING GASTRIC NEOPLASMS**

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**DOI** 10.1055-s-0042-1745363

**Aims** Underwater endoscopic mucosal resection (UEMR) has been developed and widely used in the colon. Its application in the stomach has been reported few. This study aimed to evaluate the efficacy and the safety of UEMR in the stomach (G-UEMR).

**Methods** From January 2014 to June 2021, 32 consecutive patients who had or had been suspected gastric neoplasms were enrolled in this retrospective uncontrolled study. They were resected using G-UEMR. Short term outcomes were assessed using a database from the medical records.

**Results** Among 32 lesions, 22 were neoplastic lesions including adenoma and adenocarcinoma, 5 were hyperplastic polyps, 2 were submucosal lesions. 3 were without tumor though the neoplasm was suspected in prior endoscopy. Mean size was 12.7mm, mean procedure time was 5.5min. R0 resections were obtained in all included early gastric cancer (n = 15). There were no immediate complications but an aspiration pneumonia occurred in one patient.

**Conclusions** G-UEMR appears to be a safe, easy, and effective for treating small gastric lesions including neoplasms.
Aims Gastrocolonic fistula is a rare entity accruing mainly in the setting of malignancy, we present two cases of gastrocolonic fistulas encountered while realizing gastrointestinal endoscopic resection for the treatment of upper gastrointestinal lesions. A case series from a Greek Tertiary Hospital.

Methods Endoscopic full-thickness resection (EFTR) of upper gastrointestinal tract lesions using the gastroduodenal FTDR is an innovative treatment for gastric wall tumors. We aimed to present our experience assessing the efficacy and safety of FTDR.

Results Technical success and R0 resection were achieved in all patients (100%) with a mean procedural time of 23 min. Bleeding was occurred in one patient that was successfully treated with APC (Argon Plasma Coagulation) application. No major adverse events noted. Patients did not require hospitalization or further intervention. Histopathological analysis confirmed R0 resection in all patients and established a definite diagnosis of a gastrointestinal stromal tumor in 3 patients, a neuroendocrine tumor and ectopic pancreas in two other patients.

Conclusions Gastroduodenal EFTR may serve as a minimally invasive, safe, effective endoscopic method for the treatment of small subepithelial tumors. Further studies are needed in order to evaluate the clinical benefit and long-term outcome of EFTR in selected patients.

**Abstracts | ESGE Days**

**eP511** LONG TERM OUTCOME OF GASTROINTESTINAL ENDOSCOPIC RESSECTION IN PATIENTS WITH LIVER CIRRHOSIS


**Institute** Chonnam National University Hospital, Internal Medicine, Gwangju, Korea, Republic of

**DOI** 10.1055/s-0042-1745364

**Aims** Endoscopic resection has developed over the years. The main complications are perforation and bleeding. This study aimed to evaluate safety and effectiveness of digestive endoscopic resection in patients with cirrhosis.

**Methods** This retrospective, open-label, single-center study included all consecutive patients with cirrhosis who were admitted for endoscopic resection between 2004 and 2020. Safety, efficacy, and risk factors for delayed bleeding were analyzed.

**Results** A total of 8970 patients underwent endoscopic resection for gastrointestinal neoplasia, and 228 had cirrhosis. Although the risk of post procedure bleeding is high in Child B patients (Child A – 3/231, 1.29 %, Child B 4/41, 9.75 %), the procedure can be performed relatively safely. After the procedure, there was one case of death due to bleeding, and the other cases were due to cirrhosis or liver cancer.

**Conclusions** Endoscopic resection was safe and effective in patients with mild (Child – Pugh class A/B) cirrhosis, and should be proposed as a first option for treatment of superficial neoplasia. Additional data in patients with severe cirrhosis is needed to confirm the safety in this population.

**eP512** COMBINED ENDOSCOPIC-FLUOROSCOPIC ASSESSMENT OF A SUPRADIAPHRAGMATIC CAVITY (MIS)DIAGNOSED AS COVID-19-RELATED LUNG ABSCESS

**Authors** Koffas A., Chougias D., Papaefthymiou A., Dimeas I., Toulakopoulos K., Karakasis E., Moisidou R., Argyriou K., Kapsorkakis A., Potamianos S., Manolakis A.

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**DOI** 10.1055/s-0042-1745365

An inpatient treated for COVID-19 was referred for esophagogastroduodenoscopy, after cross-sectional imaging demonstrated a ‘left-lower-lobe lung abscess’ spontaneously draining into the stomach. Gastroscopy revealed a parasophageal tear of the proximal stomach and engulfment of converging proximal gastric folds through a diaphragmatic defect. Contrast was infused into the presumed abscess cavity via a through-the-scope catheter. Upon fluoroscopy, no contrast leak was documented. The presence of a well-demarcated cavity became evident. The endoscope was advanced into the cavity revealing ulcerated gastric mucosa. The findings were compatible with the occurrence of a ‘parasophageal’ hiatal hernia, following traumatic diaphragmatic laceration during a car accident 14 months ago. The patient was referred for surgical management.

**eP513** GASTROCOLONIC FISTULAE: A RARE COMPLICATION OF FREQUENT DISEASES

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**DOI** 10.1055/s-0042-1745366

**Aims** Gastrocolonic fistula is a rare entity accruing mainly in the setting of malignancy, we present two cases of gastrocolonic fistulas encountered while realizing gastroscopies for upper gastrointestinal bleeding.

**Methods** We reported two cases of gastrocolonic fistulae.

**Results** The first patient, a 43 years old male undergoing chemotherapy for a gastric large B cell lymphoma diagnosed two months ago, presented to the emergency room with melena, a gastroscopy was realized revealing thickened folds and exfoliative mucosal lesions related to his lymphoma and in the antrum a large orifice leading to a triangular shaped lumen with no villi corresponding to the transverse colon, these findings were confirmed by an abdominal CT-scan with oral contrast revealing the gastrocolic fistulae with a premature opacification of the colon contrasting with a late opacification of the small bowel. In the second case, a 53 years old male with a history of surgery for a pyloric stenosis 21 years ago, presented to the emergency room with hematemesis, the patient also reported a liquid diarrhea and unintentional weight loss, gastroscopy revealed a large Forrest III ulcer occupying the gastrointestinal anastomosis and showing 3 orifices, two of them led to jejunal segments, while the third orifice led to a colonic mucosa with haustrations clearly observed. A CT-scan with oral contrast was indicated but refused by the patient.

**Conclusions** Gastrocolonic fistulae is a rare complication of malignant and benign pathologies, gastroscopy is key to diagnosis and cross sectional imaging provides complementary informations.

**eP514** THE USE OF GASTRODUODENAL FULL THICKNESS RESSECTION DEVICE (FTDR) FOR THE TREATMENT OF UPPER GASTROINTESTINAL LESIONS. A CASE SERIES FROM A GREEK TERTIARY HOSPITAL

**Authors** Kranidiotis G., Tsoukalas N., Trikola A., Ellina M., Rodias M., Karakoidas C., Vasilieidis K., Sioros S., Stefanidis G.

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**DOI** 10.1055/s-0042-1745367

Endoscopic full-thickness resection (EFTR) of upper gastrointestinal tract lesions using the gastroduodenal FTDR is an innovative treatment for gastric wall tumors. We aimed to present our experience assessing the efficacy and safety of FTDR.

**Methods** 5 patients (4 male, mean age 60 ± 5 years) with submucosal lesions, mean size 13 (10-16) mm, in the antrum and corpus of the stomach were included. The process begins by marking the lesion and FTDR is mounted onto a gastroscope with a 3,7mm working channel. The insertion of the device in the esophageal lumen is facilitated by dilation with a 20x60mm balloon catheter, which is successfully removed. The grasper enables the complete insertion of the lesion into the FTDR cap and the clip is released. After successful clip deployment, resection is performed with the incorporated snare.

**Results** Technical success and R0 resection were achieved in all patients (100%) with a mean procedural time of 23 min. Bleeding was occurred in one patient that was successfully treated with APC (Argon Plasma Coagulation) application. No major adverse events noted. Patients did not require hospitalization or further intervention. Histopathological analysis confirmed R0 resection in all patients and established a definite diagnosis of a gastrointestinal stromal tumor in 3 patients, a neuroendocrine tumor and ectopic pancreas in two other patients.

**Conclusions** Gastroduodenal EFTR may serve as a minimally invasive, safe, effective endoscopic method for the treatment of small subepithelial tumors. Further studies are needed in order to evaluate the clinical benefit and long-term outcome of EFTR in selected patients.
**eP515V** THE USE OF GASTRODUODENAL FULL-THICKNESS RESECTION DEVICE (FTRD) FOR THE TREATMENT OF UPPER GASTROINTESTINAL LESION

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**DOI** 10.1055/s-0042-1745368

We performed endoscopic full-thickness resection using the gastroduodenal FTRD in order to resect a submucosal lesion of 14 mm in the antrum of stomach of a 58 years old male patient. Technical success and R0 resection was achieved with a procedural time of 26 min. Histopathological analysis confirmed R0 resection and demonstrated a definite diagnosis of a gastrointestinal stromal tumor (GIST). No adverse events noted and the patient did not require hospitalization or further intervention.

**eP517V** POSSIBLY THE OLDEST KNOWN PATIENT TO HAVE EUS-GUIDED GASTROJEJUNOSTOMY TO ALLEVIATE DUODENAL OBSTRUCTION

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**DOI** 10.1055/s-0042-1745370

A 98-year-old female presented with vomiting, and weight loss. CT showed duodenal obstruction, duodenal diverticula, a ureteral mass, and bilateral hydroureteronephrosis. Push enteroscopy showed no intraluminal mass and multiple duodenal diverticula associated with narrowing/twisting. A catheter was left in the jejunum to distend the target loop and EUS-guided gastrojejunostomy was performed using a 2 cm LAMS. CT confirmed gastric decompression. She tolerated a soft diet. She declined any workup or intervention for the hydroureteronephrosis, and eventually, died from renal failure under hospice care. After an extensive search, we think she might be the oldest patient known to have EUS-guided gastrojejunostomy.

**eP518V** EUS-GUIDED TREATMENT OF GI BLEEDING SECONDARY TO GASTRIC VARICES USING COILS AND 2-OCTYL CYANOACRYLATE INJECTION

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**Institute** 1 SHARP Health Care, Gastroenterology, San Diego, United States

**DOI** 10.1055/s-0042-1745371

An 82-year-old female with liver cirrhosis secondary to NASH presented with upper GI bleeding and was found to have gastric varices IGV 1 with a fibrin clot. No esophageal varices or a feeding vessel were identified. Using a 19 g needle the varices were treated using a total of 3 coils (14 mm x 14 cm) and a total of 1 ml of 2-octyl cyanoacrylate. Complete ablation was confirmed on EUS-Doppler. No signs of bleeding on 3 and 6 months follow-up.

**eP519V** CURATIVE ENDOSCOPIC FULL-THICKNESS RESECTION OF A 17-MM GASTRIC CARCINOID INVADING THE SUBMUCOSA USING THE GFTR DEVICE

**Author** Lajin M.1

**Institute** 1 SHARP Health Care, Gastroenterology, San Diego, United States

**DOI** 10.1055/s-0042-1745372

A 41-year-old male was referred for a gastric sub-epithelial lesion. EGD/EUS showed a sub-epithelial lesion in the gastric body extending to the submucosa measuring 17 mm. He opted for Endoscopic full-thickness resection. After marking the borders, the passage of the device was facilitated by a jaw thrust.
Aims We aimed to evaluate incidence, risk, and management of pyloric stenosis (PS) after gastric endoscopic submucosal dissection (ESD).

Methods We reviewed 262 superficial gastric neoplasms who underwent ESD at a Portuguese center between January 2012-October 2021. Pyloric involvement was considered if the neoplasm or the scar affected the pylorus. PS was diagnosed if a standard endoscope could not pass the pylorus. Oral corticosteroids were prophylactically administered if pyloric involvement with a mucosal defect of >75% of the circumference. Surveillance endoscopy was performed 3-6 months after discharge, earlier if symptoms developed.

Results Among the 262 gastric ESD, 43.5% (n = 114) neoplasms were in the antrum and the pylorus was involved in 27.2% (n = 31) (direct involvement: n = 16; scar only: n = 15). Regarding the mucosal defect, 5.3% of scars occupied >75% of the circumference. The incidence of PS was 9.7% (n = 3) if the pylorus was involved (P < 0.01). All cases of PS had direct involvement of the pylorus and a mucosal defect >75%. Lesion size was significantly associated with PS (P < 0.001) but morphology and fibrosis did not correlate. Endoscopic balloon dilation was used in 2 cases, together with topical corticosteroids, while the remaining case received surgery due to non-curative resection.

Conclusions The incidence of PS after gastric ESD was low (1.2%) in a Western center but it was 9.7% if pyloric involvement. Endoscopic balloon dilation and corticosteroids were effective for management. PS only occurred in large superficial gastric neoplasms directly involving the pylorus leaving a mucosal defect >75%. Prophylactic manners, like oral corticosteroids, may be justifiable in these cases.

eP523 ENDOSCOPIC SLEEVE GASTROPLASTY IN OBESE PATIENTS NOT ELIGIBLE FOR ORGAN TRANSPLANTATION

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Aims Class II or class III obesity (BMI ≥ 35 kg/m²) is a contraindication to liver and kidney transplant because of the negative impact on transplant outcomes. Endoscopic sleeve gastroplasty (ESG) is a transoral bariatric procedure that may represent a minimally invasive therapeutic chance for obese organ candidates who have an excessive risk for bariatric surgery (BS). In this case series, we evaluate the role ESG in improving transplant candidacy in two candidates for liver and kidney transplant with obesity.

Methods After a multidisciplinary evaluation, two obese candidates for liver and kidney transplant, excluded from the transplant waiting list due to a BMI ≥ 35 kg/m², were scheduled for ESG. They were excluded from BS because of comorbidities and high risk of complication. Patients were provided with a multidisciplinary follow-up at 1 month and then every 3 months, including medical, nutritional and psychological visits.

Results Patients’ characteristics and weight loss outcomes are reported in Table 1. No serious adverse events occurred. Both patients achieved a BMI lower than 35 kg/m² within 6 months after ESG and had a significant improvement in comorbidities allowing them to withdraw specific therapy. Both patients were inserted in transplant waiting list at 7 months after the procedure and received organ transplant within 12 months after ESG.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Patients’ characteristics.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comorbidities</td>
<td>BMI at baseline</td>
</tr>
<tr>
<td>Patient 1 Male, 42 years</td>
<td>Membranous glomerulonephritis, chronic renal insufficiency, arterial hypertension, hypercholesterolaemia.</td>
</tr>
<tr>
<td>Patient 2 Male, 59 years</td>
<td>NASH with liver cirrhosis and HCC, arterial hypertension, type II diabetes, Obstructive sleep apnea in therapy with CPAP.</td>
</tr>
</tbody>
</table>

BMI: body mass index; CPAP: continuous positive airway pressure; HCC: hepatocellular carcinoma; KTx: kidney transplant; LTx: liver transplant; NASH: non-alcoholic fatty liver disease; TBWL: total body weight loss.

Conclusions Based on our initial experience, ESG combined with a multidisciplinary and personalized lifestyle modification program is an attractive and low risk strategy to achieve insertion of organ transplant candidates in transplant lists.

eP524 FOOD RESIDUE LIMITING VIEWS AT GASTROSCOPY: A REVIEW OF PATIENT CHARACTERISTICS AND MANAGEMENT STRATEGIES

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Aims The aim of this study was to review the frequency of food residue limiting views at gastroscopy, assess associated patient characteristics, and identify management strategies to reduce food stasis in high-risk patients.

Methods This was a retrospective observational study using data collected through the electronic reporting system at a large tertiary centre. All gastroscopies performed over 1 year were reviewed. Gastroscopies limited by food stasis were identified, and patient characteristics including age, co-morbidities, prokinetic use, opioid use, and post-surgical status were reviewed. Rates of repeat gastroscopies and strategies adopted for repeat procedures were reviewed.
Results 8756 gastroscopies were recorded. Food stasis limiting views was documented in 118 procedures. The mean age of patients was 59 years (range 16–79), 53% were male, 47% of patients (n = 56) were scoped on a morning list, while the remainder were spread across the afternoon, evening, and emergency lists. 25% of these patients (n = 30) were diabetic, 3 of whom had type 1 diabetes, and 14% (n = 16) had a diagnosis of chronic liver disease. 37% (n = 44) were taking opioid medication and 13% (n = 15) were prescribed tricyclic anti-depressants. Prolonged fasting advice was given to patients who required a repeat procedure (n = 54). Food residue was reported in only 4% of repeat gastroscopies.

Conclusions This study demonstrates that diabetics, co-morbid patients, and patients on opioids and tricyclic anti-depressants are potentially high-risk for food residue at gastroscopy and consideration should be given to prolonging fasting in selected patients. Further studies are required to assess the role of prokinetics in these patients.

eP525 GASTROENTEROANASTOMOSIS UNDER ENDOSCOPIC ULTRASOUND GUIDANCE USING METAL LUMEN APPOSING STENT (HOT-AXIOS): SINGLE-CENTER EXPERIENCE

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Aims Gastrointestinal tract obstruction has classically only been able to be solved by surgical techniques. Recent advances in endoscopic ultrasound and the appearance of metallic luminal apposition stents (LAS) have demonstrate an alternative for the treatment of obstructions at the level of the antrum and duodenum being their indication mainly palliative. The present study tries to be one more confirmation of the safety and effectiveness of the technique.

Methods Retrospective, descriptive, observational study of patients who underwent gastroenteroanastomosis through placement of LAS (Hot-Axios) by endoscopic ultrasound in a second-level hospital. Sedation with propofol is controlled by endoscopist and the technique consist on introducing a guide through the stenosis with a 20mm Cook Fogarty balloon that allows slow proximal injection of indigo carmine solution to favor its localization. Using this technique, a dilation of the target loop is generated between stenosis and Fogarty-balloon without needing a double balloon. Subsequently a LAS is placed according to the usual technique.

Results Endoscopic ultrasound-guided gastroenteroanastomosis with LAS was performed to 5 patients, being 80% men with mean age of 72.2 ± 14.97 years. Indication was stenosis secondary to pancreatic cancer in 60% of the cases, 20% to gastric neoplasia and ampuloma, respectively. In 100% of the cases, placement was performed from the gastric body with a 15x10mm Hot-Axios LAS. The technical success was 100%.

Conclusions Endoscopic gastroenteroanastomosis is a novel technique that represents a breakthrough of great clinical interest in patients with gastrointestinal obstruction, having created easy-to-apply devices and proving to be a safe and effective technique.

eP526 ENDOSCOPIC VERSUS SURGERY IN THE TREATMENT OF EARLY GASTRIC CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aims Endoscopic resection (ER) is the preferred approach to treat early gastric cancer (EGC) in patients that meet the resection criteria. Surgery is a more aggressive treatment, but it may be associated with less recurrence and need for reintervention.

Methods We searched PubMed and EMBASE through September 2021 to identify studies evaluating ER vs surgery for EGC. ROBINS-I was used to assess the quality of enrolled studies. The outcomes were extracted and pooled for analyses by REVMAN S 4. GRADE was used to assess the quality of evidence.

Results Totally 29 studies involving 20559 patients were included. The ER was associated with lower incidence of adverse events (RD = −0.07, 95%CI = −0.1, −0.04, P < 0.0001) and shorter length of hospital stay (95% CI = -5.89, -5.32; P < 0.0001). However, ER was associated with higher recurrence of gastric cancer (RD = 0.07, 95%CI = 0.06; P < 0.0001) and lower complete resection rates (RD = −0.1, 95%CI = −0.15, −0.06; P < 0.0001). There were no significant differences between surgery and ER in 5-year overall survival (OS) (RD = −0.01, 95%CI = −0.04, 0.02; P = 0.38), 5-year cancer specific survival (CSS) (RD = 0.01, 95%CI = 0.00, 0.02; P < 0.17), and incidence of serious adverse events (RD = −0.03, 95%CI = −0.08, 0.01; P = 0.13).

Conclusions ER can be considered safe and effective, providing few complications and faster recovery. However, ER is associated with higher risk of recurrence and lower complete resection rates, without compromising OS and CSS.

eP527V INTRAGASTRIC BAND MIGRATION: AN UNCOMMON COMPLICATION

Authors  Muñoz González R.1, Ezquerra Durán A.1, Resina Sierra E.1, Gómez Labrador C.1, Prieto Aparicio J.F.1, Fernández Velado E.1, Mendoza Jiménez-Ridruejo J.1, Casanova González M.J.1, Santander C.1, Rojo Aldarma E.1
Institute 1 Hospital Universitario La Princesa, Gastroenterology Department, Madrid, Spain

Laparoscopic adjustable gastric banding (LAGB) is a method of bariatric surgery with potential severe complications. A 41-year-old woman who underwent LAGB in 2009 presented with oral intolerance. An esophagogastroduodenoscopy showed a fibrotic stricture in the upper gastric body that was only overcome with a pediatric scope and the gastric band free in the antrum. In order to remove it, a partially covered metal stent was placed to dilate the stricture and two weeks later, an attempt was made to cut the band with SB knife, endoscopic scissors and polypectomy loop, without success. Finally, the patient required surgery for band removal.

eP528 INTRAGASTRIC BOTULINUM TOXIN-RELATED LARGE GASTRIC PHYTOBEZOAR REMOVED ENDOSCOPICALLY

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Aims Endoscopic intra-Gastric botulinum toxin is one of the weight loss procedures with variable results. It may result in transient gastroparesis. Gastroparesis is a risk factor for bezoar formation. We present one of the first cases of gastric phytozeor formation likely due to intragastric botulinum toxin injection-related transient gastroparesis.

Methods A 34-year-old female with a history of endoscopic intragastric botulinum injection done abroad for weight loss presented 4 months after the procedure with early satiety and epigastric pain and nausea for 4 weeks and had no psychiatric illness. Gastroscopy showed food material and the procedure
was aborted and re-scheduled with prolonged fasting. Next gastroscopy showed well-organized food material occupying most of the gastric body consistent with gastric phytobezoar. No obstruction or gastric erosion was seen. CT abdomen was performed which showed mottled globular structure in stomach 4 x 6 x 8 cm in dimensions (arrow in the Figure 1) consistent with gastric phytobezoar without any complications and no other phytobezoar in GI tract was seen.

**Results** Oral Coca-Cola was used for a few days to attempt dissolution however later endoscopy did not show any significant effect on the size of the phytobezoar. The cold snare was used to cut the bezoar into pieces and was retrieved. Endoscopic removal was performed while the patient was intubated and with an over-tube to prevent aspiration. After two sessions a few days apart, the subsequent endoscopy showed the complete passage of the gastric bezoar.

**Fig. 1**

Conclusions Intragastric Botulinum toxin is associated with phytobezoar formation which can be managed endoscopically.

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**eP529  RECURRENT METASTATIC UROTHEelial CANcer PRESENTING WITH DUODENal OBSTRUCTION MANAGED SUCCESSFULLY WITH ENDOSCOPIC STENTING AND STENT DILATION**

**Authors** Mushtaq K.1, Khan M.U.1, Hassan M.A.1, Abdelmola A.1, Yakoob R.1

**Institute** 1 Hamad Medical Corporation, Gastroenterology, Doha, Qatar

**DOI** 10.1055/s-0042-1745382

**Aims** Urothelial cancers can rarely metastasize to the duodenum and can present with duodenal obstruction as the main presentation. Duodenal obstruction due to urothelial cancer can be managed either by surgery or luminal stenting. We present a case where the duodenal obstruction was managed successfully by endoscopic luminal stenting.

**Methods** 60 year patient with a history of urothelial cancer in remission. Patient has received the BCG vaccine as part of therapy and was recently diagnosed to have BCG vaccine-related genitourinary tuberculosis. He presented with persistent vomiting for more than 7 days. Initial workup didn’t reveal obviously caused gastroscopy was performed which showed features of gastric outlet obstruction with duodenal stenosis at third part. Biopsies proved recurrence of urothelial cancer with metastasis to the duodenum.

**Results** The patient underwent luminal stenting under fluoroscopic guidance with a partially covered stent 12 cm by 20 mm in length and diameter respectively. No immediate complications were noted, however, the patient did not have significant symptomatic improvement. Repeat gastroscopy showed narrowing across the stent due to compression of the tumor. Balloon CRE dilatation was done 6, 7, and up to 8mm. The patient had subsequent significant symptomatic improvement, follow-up gastroscopy showed patent stent, and no further dilatation was required. The patient started palliative systemic chemotherapy. At four months follow up he was having a well-functioning stent.

**Conclusions** Duodenal obstruction from extraintestinal tumors such as urothelial cancer can be managed successfully by endoscopic stenting. The stent may require balloon dilatation if not fully expanded due to tumor compression.

---

**Fig. 1**

**eP530  ENDOSCOPIC SLEEVE GASTROPLASTY VERSUS INTRAGASTRIC BALLOON INSERTION AS A BRIDGE-TO SURGERY PROCEDURE FOR (SUPER)OBESE AND HIGH-RISK PATIENTS – A CASE MIXED STUDY**

**Authors** Gröhl K.1, Prinz F.1, Ebigbo A.1, Schnoy E.1, Messmann H.1, Goelder S.K.2, Nagl S.1

**Institutes** 1 University Hospital Augsburg, Gastroenterology, Augsburg, Germany; 2 Ostalb Klinikum, Aalen, Germany

**DOI** 10.1055/s-0042-1745383

**Aims** Bariatric surgery is the most successful treatment for obesity. In some cases bariatric surgery cannot be performed as a single-step approach due to high operative risk factors such as high BMI or severe comorbidities. Endoscopic sleeve gastoplasty (ESG) and intragastric balloon (IGB) placement have been shown to be safe and effective minimally invasive endoscopic procedures to induce weight loss. We performed a case mixed study to compare the efficacy, durability, and safety of ESG versus IGB as a bridge to surgery (BTS) procedure for superobese patients.

**Methods** We retrospectively reviewed patients with high BMI[50-80kg/m²] or severe comorbidities undergoing ESG or IGB as a BTS procedure between 2017 and 2021. ESG was performed using Endomina. Fluid-filled IGBs implanted for a 6-months duration were used. Outcomes included technical success, procedure time and adverse events. Absolute weight loss(ΔWeight,kg), change in body mass index(△BMI,kg/m²), total body weight loss(ΔTBWL, %) and excess weight loss(ΔEWL, %) were calculated at 6 months.

**Results** A total of 8 patients underwent ESG and 15 underwent IGB insertion. The IGB cohort showed a significantly lower baseline BMI than the ESG cohort[57.2(±7.8)kg/m² vs. 67.0(±9.0)kg/m²;P = 0.034]. IGB insertion was performed significantly faster (28.5(±9.0)min vs. 128.3(±22.0)min;P < 0.01). Adverse events did not differ. At 6 months mean ΔBMI and %ΔTBWL were significantly higher for the ESG group(10.9(±1.8)kg/m² vs. 5.6(±4.4)kg/m²;P = 0.027 and 17.6(±3.9)% vs. 9.2(±7.3)%;P = 0.02, respectively).

**Conclusions** ESG and IGB are both safe and effective BTS procedures for superobese and high-risk patients. ESG results in more significant weight loss and requires only one intervention.
eP532  GASTRIC NEUROENDOCRINE TUMORS AND BIERMER’S ANEMIA: WHAT MANAGEMENT?

Authors  Nkurunziza L.1, El Bacha H.1, Mechhor S.1, Gharbi T.1, Benzoubeir N.1, Errabih I.1
Institute 1 Mohammed V University/Ibn Sina University Hospital Centre, Department of Hepato-Gastro-Enterology and Proctology “Médecine B”, Rabat, Morocco

Aims  Gastric neuroendocrine tumors (GNT) are largely dominated by tumors derived from histamine-secreting enterochromaffin-like (ECL) cells located in the fundic mucosa. The majority of ECL cell tumors occur in the context of Biermer’s disease. The aim of our work is to evaluate the clinical, endoscopic, histological and therapeutic management features.

Methods  A descriptive monocentric retrospective study performed from January 2015 to January 2021 including all patients with GNT associated with Biermer’s anemia. All patients underwent gastroscopy, biological tests and CT-scan for other localization.

Results  5 patients were included, the average age was 45 [36-63]. The sex ratio M/F was 1.5. Gastroscopy was indicated for anemic syndrome (4 patients), melena (2 patients), and epigastralgia (1 patient). Upper echo-endoscopy was performed in 4 patients and showed heterogeneous polyploid lesions in the mucosa and/or submucosa with respect to the gastric muscularis. Anatomical pathological examination concluded to a GNT grade 1 with micronodular hyperplasia of the ECL in a context of autimmune gastritis of Biermer type in all patients. The biological tests showed a collapsed vitamin B12 with positive anti-parietal and antiintrinsic factor antibodies. Thoraco-abdominal-pelvic CT-scan did not reveal any secondary location. The therapeutic management consisted of vitamin B12 substitution in all patients associated with mucosectomy (1 patient), simple surveillance (2 patients) and surgical resection (2 patients).

Conclusions  GNT are often associated with atrophic fundal gastritis and Biermer’s disease. Gastroscopy coupled with pathological examination are the key diagnostic tests. Surgical indications are very rare. Endoscopic treatment of type 1 tumours larger than 1 cm is necessary and usually sufficient.

Table 1

<table>
<thead>
<tr>
<th>Age distribution</th>
<th>The mean age was 56.5 ± 6.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;40 years</td>
<td>19.4%</td>
</tr>
<tr>
<td>40-60 years</td>
<td>23.6%</td>
</tr>
<tr>
<td>&gt;60 years</td>
<td>56.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient’s medical history</th>
<th>Portal hypertension</th>
<th>Antiplatelet therapy</th>
<th>Anticoagulants therapy</th>
<th>Known gastrointestinal ulcer</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.7%</td>
<td>13.7%</td>
<td>11%</td>
<td>4%</td>
<td></td>
</tr>
</tbody>
</table>

17 patients (23.28 %) presented with hematemesis, 25 patients (34.24 %) presented hematemesis and melena, 29 patients (39.72 %) presented melena and 8 patients (10.95 %) presented rectal bleeding. The average time to perform gastroscopy was 36.97 h ± 8.9. The main diagnoses were bleeding on esophageal varices in 13 patients (17 %), gastrointestinal ulcer in 23 patients (31.5 %), gastric tumor process in 4 patients (5 %), gastric angiodysplasias and peptic esophagitis in 5 patients each (6.8 %) and normal gastroscopy in 12 patients (16 %). Endoscopic hemostasis was performed by variceal ligation in 11 patients (15 %), APC (6 %), application of clips (33 %), biological glue injection and hemoctatic spray (1 %).

Fig. 1

Conclusions  The majority of UGIB occurred in patients over 60 years of age in our series. Upper endoscopy is the key examination and is the main step for diagnostic and therapeutic purposes. The most common etiologies are ulcer disease and portal hypertension-related bleeding. Specific management varies according to the causative lesion and prognosis has been improved by rapid and effective management.

eP533  UPPER GASTROINTESTINAL BLEEDING: A PROSPECTIVE EPIDEMIOLOGICAL STUDY OF 72 CASES

Authors  Nkurunziza L.1, El Bacha H.1, Mechhor S.1, Gharbi T.1, Benzoubeir N.1, Errabih I.1
Institute 1 Mohammed V University/Ibn Sina University Hospital Centre, Department of Hepato-Gastro-Enterology and Proctology “Médecine B”, Rabat, Morocco

Aims  Upper gastrointestinal bleeding (UGIB) is a common medical condition that results in substantial morbidity and mortality. The objective of this work is to study the epidemiological profile of UGIB in our department.

Methods  A prospective descriptive study including patients admitted for UGIB from January to December 2020. All patients underwent upper endoscopy. We collected epidemiological, etiologies and endoscopic data.

Results  The study included 72 patients with UGIB, 31 males (43.1 %) and 41 females (56.9 %), sex ratio (F/M) = 1.2. The age distribution and patient’s medical history were:

Table 1

Age distribution

<table>
<thead>
<tr>
<th>Age</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;40</td>
<td>13.7%</td>
</tr>
<tr>
<td>40-60</td>
<td>23.6%</td>
</tr>
<tr>
<td>&gt;60</td>
<td>56.9%</td>
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</tbody>
</table>

Patient’s medical history

<table>
<thead>
<tr>
<th>Lesion</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portal hypertension</td>
<td>13.7%</td>
</tr>
<tr>
<td>Antiplatelet therapy</td>
<td>13.7%</td>
</tr>
<tr>
<td>Anticoagulants therapy</td>
<td>11%</td>
</tr>
<tr>
<td>Known gastrointestinal ulcer</td>
<td>4%</td>
</tr>
</tbody>
</table>

Conclusions  The majority of UGIB occurred in patients over 60 years of age in our series. Upper endoscopy is the key examination and is the main step for diagnostic and therapeutic purposes. The most common etiologies are ulcer disease and portal hypertension-related bleeding. Specific management varies according to the causative lesion and prognosis has been improved by rapid and effective management.

eP534  NIVOLUMAB-INDUCED ACUTE NEUTROPHILIC GASTRITIS: CASE REPORT IN A TERTIARY HOSPITAL

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Institutes 1 Hospital General universitario de Elche, Digestive Care, Elche, Spain; 2 Hospital General universitario de Elche, Oncology, Elche, Spain

Aims  Immune-check-point blockade agents are extensively used in the oncology field. Lower tract gastrointestinal toxicity is more frequent for anti-CTLA-4 than for anti-PD-L1, the target of Nivolumab. The immune-mediated gastritis or the esophagitis remain sporadic adverse events. However, two cases of acute pangastritis have been reported in six months in our center.
Methods We carried out a retrospective and descriptive study. We reviewed the clinical history of patients who received Nivolumab for any indication from January 2017 to December 2021. Results 2 of the 100 patients treated with Nivolumab started with intense epigastric pain after its 9th dose. Their characteristics are summarized in Table 1. Preferential ODG were performed, showing an intense inflammation with extense ulceration throughout the stomach. Pathological analysis revealed epithelial neutrophil infiltration, cellular apoptosis and crypt microabscesses, all related to Nivolumab drug-induced pangastritis. No form of Helicobacter Pylori was identified. The second patient remained hospitalized with IV corticosteroids, achieving her complete recovery. The first patient rapidly asymptomatic. The second patient remained hospitalized with IV corticosteroids, achieving her complete recovery.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Patient 1</th>
<th>Patient 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>47</td>
<td>64</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Tumor and stage</td>
<td>Stage III skin melanoma surgically removed</td>
<td>Stage IV choroidal melanoma stage IV surgically removed</td>
</tr>
<tr>
<td>Previous immune-relat ed adverse events or history of autoimmune disease</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Conclusions Nivolumab is used in metastatic, locally advanced or recurrent malignant diseases. It leads to the activation of the cytotoxic immune response against tumour cells. Immune-mediated gastritis can appear several months after its beginning but also after its discontinuation. The differential diagnosis must exclude infectious gastritis, vasculitis, Crohn’s disease or Behçet syndrome. H. Pylori infection can worsen its course. Medical approach is based on the immunomodulatory cessation, gastric acid suppression and corticosteroids in severe cases. Infliximab has been successfully used in refractory patients.

eP536V MULTIMODAL APPROACH IN ONE SESSION FOR MULTIPLE GASTRIC NEOPLASMS

Authors Panarese S.,1 Barbaro F.,2 Papparella L.G.,2 Ciuffini C.,1 Petruzziello L.1, Costamagna G.1
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We present a multimodal approach in one session for multiple gastric lesions in a 76-year-old patient. He underwent a gastroscopy with diagnosis of four gastric lesions: one at gastric angularis (IIa-IIIc) of 30 mm, one in the antrum involving the pyloric canal (0-IIa) of 25 mm and two sessile lesions (0-IIc according to Paris) each of 12 mm in posterior wall and great curvature. It was scheduled double ESD for larger lesions and double cap-EMR for minor lesions. Patient was discharged after 48 hours without complications. Histology was respectively: well differentiated EGC, TV adenoma with HGD and two TV adenoma with LGD.

eP537 VANEK’S TUMOR AS A RARE CAUSE OF DYSPEPTIC SYMPTOMS IN A WOMAN WITH PRIMARY BILIARY CHOLANGITIS: A CASE REPORT

Authors Pellegrino R.1, Panarese I.2, De Gennaro N.1, Ciamarra P.1, Priakdo K.T., Granata L.1, Palladino G.1, Scida G.1, Facchiano A.1, Franco R.2, Romano M.1, Gravina A.G.1
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Aims Vanek’s Tumor is a rare mesenchymal gastrointestinal tumor. Different locations have been described and it is generally considered a benign lesion and characterized by a solitary/submucosal polyoid/nodular lesion. It’s characterized by a hypocellular population, generally consisting of spindle-like cells, with soft void nuclei, with little eosinophilic cytoplasm. We present a case of Vanek’s Tumor.

Methods We presented a case of a 67-year-old patient with unclear dyspeptic syndrome and a history of primitive biliary cholangitis, non-bloody uterine fibroids as well as arthrosis of the right knee, and undergoing esophagogastro-duodenoscopy because of dyspepsia unresponsive to symptomatic therapy. Family history was silent for gastrointestinal pathologies. A mild epigastric pain was the only clinical evidence.

Results Esophagogastro-duodenoscopy showed a sessile mucosal formation at gastric angularis (diameter 10 millimeters). Random biopsies were taken from antrum, angularis and gastric body and targeted biopsies on the polypoid lesion were also taken because at Narrow Band Imaging examination it had no particular characteristics. On histology, we found gastric body-fundus type mucosa with moderate and quiescent chronic inflammation. One of the gastric body fragments showed elongated and branched foveola with focal cystic glandular dilatation (gastric hyperplastic polyph). Then polyectomy was performed which allowed to observe low cell density submucosa proliferation, consisting of spindle cells, with bland nuclei, irregularly arranged and immersed in an edematous-lax stroma, with numerous inflammatory elements including several eosinophils. An abundant vascular network was associated. CD34+ , S100+ , CD117+ , ALK (d5f3 clone) - was found at immunohistochemistry.

Conclusions We were able to reach diagnosis of Vanek’s tumor of the stomach.

Abstracts | ESGE Days

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eP538V  HYBRID SUBMUCOSAL ENDOSCOPIC EXCAVATION FOR A GASTRIC GIST IN A PATIENT WITH A VOLUMINOUS ABDOMINAL WALL Hernia – KILLING TWO FLIES WITH ONE BLOW

Authors: Pereira Correia F.1, Pinto B.1, Cardoso M.1, Branco J.C.1, Carvalho Lourenço L.1, Martins A.1
Institute: 1 Hospital Prof. Dr. Fernando Fonseca, Amadora, Portugal
DOI: 10.1055/s-0042-1745392

A 60-years-old male followed by General Surgery for irreducible voluminous incisional hernia. He had a history of gastric polyloid lesion not fully characterized, so an upper GI endoscopy were requested prior to hernia surgical repair. Upper GI endoscopy and endoscopic ultrasound led to diagnostic GIST. The endoscopic resection (Endoscopic Submucosal Excavation) was performed in the same surgical procedure for abdominal hernia repair. The surgery team contributed to strengthening the closure of the post-resection defect, although there was no free perforation. Endoscopic submucosal excavation (ESE) has been shown to be a safe and effective option in the endoscopic resection of GISTS.

eP539  ENDOSCOPIC SUBMUCOSAL DISSECTION IN A WESTERN NON-ACADEMIC CENTRE – INITIAL EXPERIENCE

Authors: Pereira Correia F.1, Bordalo Ferreira F.1, Cardoso M.1, Carvalho Lourenço L.1, Martins A.1
Institute: 1 Hospital Prof. Dr. Fernando Fonseca, Amadora, Portugal
DOI: 10.1055/s-0042-1745392

Aims: Endoscopic submucosal dissection (ESD) is a technique developed in East Asia that allows the resection of histologically advanced epithelial lesions. In the last years, in the Western World, experience in this procedure has been increasing, with several published studies showing good results. Our aim is to show the results of ESD carried out in a non-academic centre in a western country.

Methods: Single-centre retrospective study of patients undergoing endoscopic submucosal dissection of stomach and rectum lesions. Between March 2019 and October 2021, 33 ESD were performed. We present data regarding the location, histology of the removed lesion, histological complete resection rate (RO) and rate of complications.

Results: Of the 33 removed lesions, 23 were gastric lesions and 10 rectal lesions. 3 (13%) of the gastric lesions were early gastric cancer, while 4 (40%) of rectal lesions were early cancers. The complete histological resection rate (RO) was 87% in gastric lesions and 90% in rectal lesions. All lesions with adenocarcinoma histology were RO resections. Regarding immediate or late complications, there were 4 complications (two bleedings, one perforation and one coagulation syndrome), all of them treated endoscopically or conservatively, without the need for surgical interventions or without mortality associated.

Conclusions: Our results are in agreement with several recently published studies and show a great potential and promising future of ESD in the treatment of histologically advanced epithelial lesions of the stomach and rectum.

Endoscopy 2022; 54: S1–S303 | © 2022. European Society of Gastrointestinal Endoscopy. All rights reserved.
Methods  Through the feeding port of the PEG tube an ERCP guidewire is introduced into the gastric lumen. Using a polypectomy snare, the guidewire is trapped and then pulled out through the channel of the scope. An 8 mm TTS balloon dilator is inserted through the guidewire into the internal bumper. Right after, the balloon is inflated, dilating the tract of the gastrostomy above the buried bumper and fixing the PEG tube over the inflated balloon. Finally, the internal bumper is cautiously pushed back into the gastric lumen and removed using a polypectomy snare.

Conclusions  We propose the use of a balloon dilator as an alternative method in selected cases for the treatment of buried bumper syndrome.

eP543V  CURATIVE ESD OF A LARGE GASTRIC MALT-LYMPHOMA

Authors  Rivero-Sánchez L.1,2, Van Den Neste E.3, Dano H.4, Deprez P.H.1
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A 65-year-old male was diagnosed with Helicobacter pylori-negative gastric mucosal-associated lymphoid tissue (MALT)-lymphoma, measuring 46mm with a protruding shape and subepithelial appearance in the corpus-fundus junction. EUS showed mucosal involvement without parietal extension. After treatment with antibiotics and Rituximab, no endoscopic/histological response was observed at 12-month follow-up. After treatment option discussions in a multidisciplinary meeting, an en-bloc endoscopic submucosal dissection (ESD) was performed without complications. Histopathology revealed free deep and lateral margins. Follow-up at 6 and 12 months showed no endoscopic/histological recurrence. This report provides further support of ESD as a minimally invasive second-line treatment of MALT-lymphoma in selected patients.

eP544  CHARACTERISTICS AND FEATURES OF UPPER GASTRO INTESTINAL BLEEDING IN PATIENTS ON ANTITHROMBOTIC DRUGS: A PROSPECTIVE STUDY

Authors  Rokhsii S.1, Addajou T.1, Mrabti S.1, Sair A.1, Touibi A.1, Benhamedane A.1, Berrida R.1, El Kotti I.1, Roubaa F.1, Benkirane A.1, Seddik H.1
Institute  1 Mohammed V Military Hospital, Rabat, Morocco

Aims  The aim of our study is to evaluate the effect of AT use on endoscopic outcomes in patients admitted for UGIB.

Methods  This is a prospective monocentric cross-sectional study of 332 patients conducted between June 2020 and August 2021. We considered as users of AT drugs all patients on antplatelet agents (low-dose aspirin, thienopyrimidines) and/or anticoagulants (vitamin K antagonists, direct-acting anticoagulants, heparin).

Demographic, clinical, endoscopic and therapeutic data was collected, and analysed in a database on the SPSS version 22.0 program.

Results  The average age was 59 ± 16.7 years. Our series was characterised by a clear male predominance of 77.1%. 63 patients (19%) were taking AT drugs (41 antiplatelet, 39 anticoagulant). The two groups differed in age (68 vs 57; p < 0.001), comorbidities (75.8% vs 16.7%; p < 0.001), however there was no statistically significant difference in active bleeding at endoscopy (12.7% vs 16.8%; p = 0.425), and the need for endoscopic haemostasis (7.9% vs 16%; p = 0.1).

In multivariate analysis and adjusting for age, sex, comorbidities, presence of active bleeding and use of antithrombotics, only the presence of active bleeding could predict the need for endoscopic haemostasis. Indeed, the presence of active bleeding at the time of endoscopy multiplies by 26 the risk of recurrence to endoscopic haemostasis (OR: 26, CI: 12.9-62.15, p < 0.001), whereas the use of AT drugs does not influence the need for endoscopic haemostasis (OR: 0.386, CI: 0.105-1.42, p = 0.154).

Conclusions  Older patients using AT admitted for UGIB do not appear to have an increased risk of active bleeding at endoscopy or needing endoscopic haemostasis.
eP545 TWO-STAGED APPROACH FOR MANAGEMENT OF A COMPLEX INTRA-THORACIC ESOPHAGO-GASTRIC ANASTOMOTIC DEHISCENCE

Authors  Serrazina J.1, Damião F.1, Noronha Ferreira C.1, Moura M.1, Matos H.2, Braga T.2, Freire J.P.2, Carrilho-Ribeiro L.1,3, Tato Marinho R.1,3
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Aims  Intra-thoracic anastomotic dehiscence after esophagectomy is a life-threatening complication. Interventional endoscopy plays a key role in managing such adverse events with lower morbidity.

Methods  Case report  A 73-year-old female underwent Ivor Lewis esophagectomy for an adenocarcinoma of esophagogastric junction (ypt 1aN0). Ten days later, she developed sepsis. Thoracic CT-scan revealed a posterior dehiscence of the intra-thoracic esophagogastric anastomosis and right hydro pneumothorax. Broad spectrum antibiotics were initiated. Emergent esophagogastricography revealed a 20 mm dehiscence of the gastroesophageal anastomosis involving 50% of the circumference with a local abscess adjacent to it. Internal drainage was inserted with three 10Fr 5cm plastic double-pigtail stents was performed followed by right thoracic drainage. The patient improved and twelve days later, endoscopy was repeated. The plastic stents were removed, and endoscopy confirmed the extensive dehiscence of the esophagogastric anastomosis communicating with two cavities measuring 6x3cm and 4x2cm in the mediastinum, filled with necrotic tissue. After endoscopic debridement and lavage of the cavities with saline solution, a partially covered metallic stent (Hanarostent® 20/26 x 100mm) was placed along with a naso-enteric feeding tube. The patient improved and antibiotics were stopped 2 weeks later. The stent was removed 2 months later. The dehiscence had completely closed due to healing by secondary intention. She remains well after 9 months of follow-up.

Conclusions  This case highlights the usefulness of a two-staged sequential approach in the management of upper digestive anastomotic dehiscence.

eP546 NON-INVASIVE MARKERS PREDICTIVE OF PORTAL HYPERTENSIVE GASTROPATHY IN CIRRHOTIC PATIENTS

Authors  Tabari R.1, Mrabet S.1, Hassine A.1, Harbi R.1, Akkari L.1, Hassine A.1, Ben Jazia E.1
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Aims  Portal hypertensive gastropathy (PHG) is a portal hypertension manifestation which diagnosis relies on upper gastrointestinal endoscopy (UGE). In this study we aimed to evaluate the effectiveness of non-invasive indicators in predicting PHG.

Methods  In this single-centre retrospective study, we included all admitted cirrhotic patients between 2008 and 2021. We collected biological and imaging parameters. PHG severity was assessed according to the grading of New Italian Endoscopic Club (NIEC). We also calculated the following scores: FIB-4, APRI, King-score, Lok-score, Liaoning-score, Fibrosis-index, AST/ALT ratio and Platelet/Spleen diameter.

Results  We included 200 patients of mean age 56.9 years ± 15 years and 56% female. PHG was found in 71% of cases. Mild gastropathy was observed in 41, moderate in 71 and severe in 31 patients. Laboratory and sonographic findings were not correlated to PHG, notably platelet count (p = 0.56), leucocyte count (p = 0.50), haemoglobin (p = 0.95), serum-sodium (p = 0.95), serum-albumin (p = 0.69), serum-creatinine (p = 0.40), transaminases (p = 0.55, 0.36), total-bilirubin (p = 0.72), INR (p = 0.85), spleen diameter (p = 0.57) and portal vein diameter (p = 0.10). Similarly, we found no association between non-invasive scores and PHG when comparing the gastropathy-group to baseline: FIB-4 (7.9-6.8, p = 0.21), APRI (2.3-1.8, p = 0.12), King-score (85.4-67.4, p = 0.08), Lok-score (0.92-0.90, p = 0.45), Liaoning-score (0.9 – (-0.2), p = 0.08), fibrosis-index (4.4-4.3, p = 0.74), AST/ALT (1.8-2.1, p = 0.44), Platelet/Spleen diameter (793.3-783.1, p = 0.92). However, in subgroup analysis, unlike the other scores, Liaoning-score was checked as significantly associated with severe PHG (severe PHG: 0.36 vs non-severe PHG: (-0.62), p = 0.04).

Conclusions  In our study, the performance of non-invasive markers was mediocre in predicting PHG presence. Liaoning-score nevertheless was associated with gastropathy severity.

eP547 PHLEGMONOUS GASTRITIS: CASE REPORT AND LITERATURE REVIEW

Authors  Tarasenko L.1, Polishchuk S.1, Dombrovsky Y.1
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Aims  We present a case of phlegmonous gastritis (PG).

Methods  Female, 50 y.o. admitted on the 12th day from symptoms onset with suspected gastric cancer. Upon presentation she had no complaints but a history of abdominal pain, nausea, diarrhea, subfebrile temperature for 3 days which subsided with ceftriaxone prescribed for suspected gastroenteritis. Medical history is significant for arthrosis and COVID-19. She is taking aspirin and NSAIDs. Physical examination revealed mild epigastric tenderness without guarding, Bp – 150/90 mm Hg, heart rate – 78 bpm, body temperature – 37.2°C, CRP – 47,9 mg/l, Leu – 18,5 g/L, ESR – 37 mm/h. Test for syphils was negative. She was treated with levofloxacin and metronidazole, discharged on day 15.

Results  In 2013 a review of 45 PG cases was published. We performed a PubMed search from 2013 through 09.2021 and found 45 case reports of phlegmonous gastritis, published in English (ours included).

Among 45 patients 27 (60%) were treated conservatively, 18 (40%) – operatively. The most common preexisting condition for PG was diabetes – 10(22%), and neoplasia – 10(22%), no risk factors were found in 8(18%) cases. Succeeded to the disease 6 patients resulting in mortality rate of 13,3 %. PG is
usually caused by a bacterial infection, the most common pathogen found in gastric content was Streptococcus – in 18 (40 %), in particular Streptococcus pyogenes – 11 (24 %), in 9 (20 %) more than one infectious agent was discovered.

Conclusions Exact pathogen was not identified, but clinical course, endoscopic and morphological findings are consistent with phlegmonous gastritis.

eP548V HYPERRNEFOMA GASTRIC METASTASIS: RESECTION BY “LOOP-AND-LET-GO” TECHNIQUE

Authors Vazquez Gomez D.1, Torres Vicente G.1, Zaragoza Velasco N.1, Puñal Vidal L.2, Pijoan Comas E.2, Miguel Salas M.1, Torres Monclús M.N.1, Bayas Pástor D.C.1, Réfié Espinet J.M.1, Gonzalez-Huix Lladó F.2

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A 63-year-old man with previous left partial nephrectomy due to hypernephroma in 2017. A CT scan in 2021 shows a polyp on gastric body. Endoscopy revealed a 4 cm polyloid mass, friable, with a wide and short pedicle, on greater curvature. We decided to place an endoloop in order to leaving it abandoned causing strangulation of the tissue (“loop-and-let-go”), biopsies were taken confirming hypernephroma metastasis. Four days after we check the lesion had detached, were taken new biopsies: now negative for malignant cells. An echoendoscopy was also performed without observing parietal thickening, lymphadenopathy nor lesions in neighboring organs.

eP549 EFFICACY OF A NOVEL PEPTIDE HAEMOSTATIC GEL IN PREVENTION OF BLEEDING POST ENDOSCOPIC RESECTION OF LARGE DUODENAL ADENOMAS

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Aims Post procedural bleeding (PPB) after endoscopic mucosal resection (EMR) of duodenal lesions is significant and can occur in 5-25 % of patients. Several factors affect this including lesion location, type of resection, lesion size and comorbidities. Endoscopic removal of ampullary lesions or large lesions (> 10 mm) have high risk of delayed bleeding. We aimed to assess the efficacy of a novel self-assembling peptide matrix gel in preventing PPB after resection of large duodenal adenomas.

Methods We analysed the data of a retrospective cohort of patients who underwent endoscopic resections of duodenal adenomas > 10mm from three tertiary Australian hospitals between September 2019 and November 2021. Use of the peptide matrix gel was identified along with lesion size, histology, location and mode of resection. PPB, within 30 days post resection, was identified through electronic records.

Results 17 patients were identified; 12 underwent duodenal EMR and 5 papillectomies. 6 lesions were > 20mm. One patient had PPB requiring further management (5.8 %). None of the patients who underwent ampullary resections had post procedural bleeding.

Conclusions The novel peptide matrix gel is technically easy to use and has been reported to be highly effective in the stomach and colon. Data is limited on its use in the duodenum where the risk of PPB is high. Our experience in a small cohort suggests it has significant benefit in duodenal endoscopic resections including the ampulla. Further prospective studies are required to fully establish its role and benefit in the duodenum.

eP550 APPLICATION OF MACHINE LEARNING ALGORITHM BASED ON MULTI-FEATURE FITTING IN THE DIAGNOSIS OF WHITISH NEoplastIC GASTRIC LESIONS UNDER WHITE LIGHT GASTROSCOPY

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Aims To develop machine-learning based multi-feature fitting algorithm to diagnose whitish neoplastic gastric lesions under white light endoscopy and enhance interpretability. Compare the diagnostic performance of the algorithms with the sole deep learning algorithm.

Methods Retrospectively collected 210 non-neoplastic images from Renmin Hospital of Wuhan University, the Seventh Medical Center of PLA General Hospital, and Nanjing Drum Tower Hospital from November 2012 to December 2020, of which 170 were used as training set, the remaining 40 images were used as test set; 207 neoplastic images were collected, of which 165 pictures are used as training set, and the remaining 42 images are used as test set. The general shape of the lesion, whether the boundary is clear or not, whether the surface shape is regular, the background mucosa, and the location of the lesion are selected as key features. The key features of each image was labeled by expert endoscopists. Multiple machine learning models were applied for training and testing. Use deep learning framework to train binary classification model to distinguish whether the lesion was neoplastic or not.

Results In the test set, the accuracy, sensitivity and specificity of the sole deep learning algorithm were 81.96 %, 71.43 % and 92.5 %, respectively. The accuracy, sensitivity, and specificity of KNN(K-Nearest Neighbor) algorithm were 86.9 %, 90.7 % and 82.93 %, respectively; the accuracy, sensitivity and specificity of SVM(support vector machine) algorithm were 84.52-85.71 %, 88.37-90.70 % and 78.05-82.93 % respectively.

Conclusions Multi-feature fitting machine learning performed better than the sole deep learning algorithm for diagnosing whitish neoplastic gastric lesions under white light endoscopy.

eP551V ACUTE IATROGENIC GASTRIC PERFORATION DURING EUS FOR DISTAL MALIGNANT BILARY OBSTRUCTION: SAME-SESSION INTRA-OPERATIVE OVER-THE-SCOPE-CLIP CLOSURE, DUODENAL STENTING AND EUS-GUIDED DRAINAGE WITH LUMEN APPPOSING METAL STENT

Authors Di Mitri R.1, Amata M.1, Moccioni F.1, Conte E.1, Bonacorso A.1, Scivo B.1, Cali A.1, Scimeca D.1

Institute 1 ARNAS Civico – Di Cristina – Benfratelli Hospital, Gastroenterology and Digestive Endoscopy, Palermo, Italy


A 72-year-old woman with pancreatic head’s mass and dilated bile ducts was scheduled for tissue acquisition and biliary drainage. EUS was performed with linear echoendoscope (GF-UCT140; Olympus) with CO2 insufflation. During the advancing maneuvers of the echoendoscope to reach the duodenum, we detected a full-thickness 14-mm defect of gastric angulus with direct access into the peritoneum. An over-the-scope clip (OTSC 14/6t, Ovesco-Germany) was immediately deployed closing the iatrogenic perforation and allowing to complete the procedure with EUS-FNB of the lesion, duodenal uncovered self-expandable metal stent placement for neoplastic infiltration of duodenal bulb and EUS-guided choledoco-duodenostomy with 10 × 20-mm Hot-Spaxus (Taewoong).
Single center retrospective cohort of consecutive patients with EGC that underwent ESD (2005 – 2020). Collected data was compared between 2 groups: curative vs NCR with risk of LNM. Univariate and multivariate analysis was performed.

Results: 668 lesions underwent ESD for EGC, of which 82 (12 %) presented NCR with risk of LNM and 586 lesions were assigned to the Curative group.

Mean age, %male sex, %en bloc ESD and mean size were 66.9, 57.3 %, 97.1 % and 18.95mm in the Curative group and 68.5, 72 %, 93.9 %, 27.29mm in the NCR Group.

With risk of LNM and 586 lesions were assigned to the Curative group.

Aims: To identify the pre-treatment risk factors for NCR curability that may improve selecting cases for ESD.

Methods: Single center retrospective cohort of consecutive patients with EGC that underwent ESD (2005 – 2020). Collected data was compared between 2 groups: curative vs NCR with risk of LNM. Univariate and multivariate analysis was performed.

Results: 668 lesions underwent ESD for EGC, of which 82 (12 %) presented NCR with risk of LNM and 586 lesions were assigned to the Curative group.

Mean age, %male sex, %en bloc ESD and mean size were 66.9, 57.3 %, 97.1 % and 18.95mm in the Curative group and 68.5, 72 %, 93.9 %, 27.29mm in the NCR Group.

The identified risk factors were related to location, size, presence of ulceration, histology on previous endoscopic biopsies and morphology of the lesion (Table, multivariate).

Male sex was associated with NCR on univariate but not on multivariate analysis.

Table 1

<table>
<thead>
<tr>
<th>Feature</th>
<th>Curative</th>
<th>Non-curative</th>
<th>P value</th>
<th>Adjusted OR (95 % CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>83(86.5 %)</td>
<td>13(13.5 %)</td>
<td>0.189</td>
<td>1.74(0.76-3.40)</td>
</tr>
<tr>
<td>Upper third</td>
<td>190(81.9 %)</td>
<td>42(18.1 %)</td>
<td>0.007</td>
<td>2.33(1.26-4.31)</td>
</tr>
<tr>
<td>Middle</td>
<td>313(92.1 %)</td>
<td>27(7.9 %)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-20mm</td>
<td>429(93.7 %)</td>
<td>29(6.3 %)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>21-30mm</td>
<td>112(75.7 %)</td>
<td>36(24.3 %)</td>
<td>0.001</td>
<td>2.69(1.48-4.89)</td>
</tr>
<tr>
<td>&gt; = 31mm</td>
<td>45(72.6 %)</td>
<td>17(27.4 %)</td>
<td>&lt; 0.001</td>
<td>4.60(2.14-9.85)</td>
</tr>
<tr>
<td>Ulceration</td>
<td>262(62.2 %)</td>
<td>37(37.8 %)</td>
<td>0.018</td>
<td>2.80(1.19-6.55)</td>
</tr>
<tr>
<td>Absent</td>
<td>494(88.1 %)</td>
<td>67(11.9 %)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Previous Histology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LGD</td>
<td>251(98.0 %)</td>
<td>5(2.0 %)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>HGD</td>
<td>210(87.9 %)</td>
<td>29(12.1 %)</td>
<td>&lt; 0.001</td>
<td>6.12(2.24-16.70)</td>
</tr>
<tr>
<td>Carcinoma</td>
<td>98(76.7 %)</td>
<td>47(32.4 %)</td>
<td>&lt; 0.001</td>
<td>14.99(5.50-40.84)</td>
</tr>
<tr>
<td>Morphology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressed</td>
<td>258(83.0 %)</td>
<td>53(17.0 %)</td>
<td>0.049</td>
<td>1.99(1.00-3.95)</td>
</tr>
<tr>
<td>Protruded</td>
<td>59(81.9 %)</td>
<td>13(18.1 %)</td>
<td>0.042</td>
<td>2.53(1.03-6.19)</td>
</tr>
<tr>
<td>Flat</td>
<td>267(94.3 %)</td>
<td>16(5.7 %)</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions: Middle gastric location, size > 20mm, presence of ulceration, HGD or Carcinoma in endoscopic biopsies on previous biopsies and protruded or depressed morphology are risk factors for NCR.

Three-dimensional (3D) endoscopic visualization system to perform endoscopic sleeve gastroplasty.

Methods: Patients consecutively operated from September to November 2021 with a 3D-HD endoscopic visualization system (MDTK MonoStereo; Taiwan) were prospectively collected. Patients’ demographic data, preoperative anthropometrics data; operative time, number of sutures made, intraoperative and postoperative complications, and follow-up data were prospectively recorded and retrospectively reviewed. Additionally, a questionnaire was completed by the endoscopist evaluating the subjective impression of visualization and handling.

Results: Seven patients (age 27 to 52 years old, 3 male) underwent endoscopic sleeve gastroplasty using 3D-HD endoscopic visualization system. Mean preoperative body mass index was 33kg/m2, mean operative time was 52 minutes with a mean of 5 sutures (4-7) used. No 30-day complications were reported and patients lost 8 % total body weight loss after 1 month. The endoscopist reported better visualization, better depth perception and no nausea with the 3D visualization system.

Conclusions: 3D-HD endoscopic visualization system seems to provide potential advantages in endoscopic sleeve gastroplasty. This initial experience is promising but must be confirmed by larger series.
Conclusions RAC + can accurately identify patients without Hp infection. Our data suggests training in RAC might be redundant. Implementation by untrained operators seems feasible as the global performance in our study matched data from previous literature. Our findings need to be confirmed in a larger group of operators.

eP555  THE ROLE OF THE ENDOSCOPIC DOPPLER PROBE IN NON VARICEAL UPPER GASTROINTESTINAL BLEEDING: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aims The effectiveness of the Doppler Endoscopic Probe (DEP) inserted through the operating channel in non-variceal upper gastrointestinal bleeding (NVUGIB). We aimed to perform a systematic review characterizing the effectiveness of DEP in patients with NVUGIB.

Methods A literature search until July 2021 using OVID MEDLINE, EMBASE, and ISWeb of Knowledge identified studies addressing DEP in NVUGIB. A series of meta-analyses were performed assessing outcomes amongst observational and intervention studies for DEP signal positive and negative lesions as well as DEP-assisted versus standard endoscopies. The primary outcome was "overall rebleeding"; secondary outcomes included all-cause mortality, bleeding-related mortality, need for surgery, length of stay, ICU stay and angiography.

Results Fourteen studies were included from 1911 citations identified. Observational studies compared bleeding lesions with DEP positive versus DEP negative signals 11 studies, n = 800 pre-hemostasis that includes 5 studies, n = 148 with post-hemostasis data. Three interventional studies (n = 308) compared DEP-assisted to standard endoscopy management. DEP signal positive versus negative lesions both prior to or following any possible hemostasis were at greater risk of overall rebleeding (OR = 6.54; 95% CI 2.36; 18.11, I2 = 46% and OR = 25.96; 95% CI 6.74; 100.0, I2 = 0% respectively). The use of DEP during endoscopy significantly reduced overall rebleeding rates (OR = 0.27; 95% CI 0.14; 0.54). When removing outcomes analysis for which only one study was available, all evaluable outcomes were improved with DEP characterization of management guidance except for all-cause mortality.

Fig. 1

Conclusions DEP-related information improves on sole visual determination of the rebleeding risk of a NVUGIB lesion with DEP-guided management resulting in decreased overall rebleeding, bleeding-related mortality and need for surgery.

eP556 SHORT- AND LONG-TERM OUTCOMES OF ENDOSCOPIC SUBMUCOSAL DISSECTION FOR UNDIFFERENTIATED EARLY GASTRIC CANCER: A MULTI-CENTER RETROSPECTIVE COHORT

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Aims Undifferentiated early gastric cancer (UD-EGC) represents an extended indication for endoscopic submucosal dissection (ESD). This study evaluated the prevalence of UD-EGC recurrence after ESD, and potentially implicated risk factors.

Methods Data from 9 centers were collected retrospectively including demographics, endoscopic and pathological findings during follow-up, in UD-EGC cases treated by ESD. Patients with incomplete resection or advanced disease were excluded. Descriptive statistics quantified variables and calculated the incidence of recurrence. Chi-square test was applied to assess any link between independent variables and relapse; significantly associated variables were inserted to a multivariable regression model.

Results 51 patients were eligible, with 1.5:1 female to male ratio and age of 64 (± 10) years. Mean lesion size was 38.9 (± 18.8)mm and the most frequent histological subtype was signet-cells UGC (64.7 %). In 71.9 % of cases, there was associated with history of H.pylori infection, and poorly differentiated adenocarcinoma, submucosal, perineural and (lympho-)vascular invasion (p < 0.05 per variable) but not with lesion size or other endoscopic factors. In regression analysis, perineural invasion preserved a significant association with relapses (p = 0.006).

Conclusions ESD could be considered as the initial step to manage UD-EGC, providing an "entire-lesion" biopsy. Moreover, when histology confirms absence of deep, vascular and perineural invasion, this modality could be therapeutic, providing low recurrence rates.

eP557 STEPPING IT UP: PHYSICAL INACTIVITY IS ASSOCIATED WITH CAPSULE ENDOSCOPY PROLONGED GASTRIC TRANSIT TIME

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Aims The effectiveness of the Doppler Endoscopic Probe (DEP) inserted through the operating channel in non-variceal upper gastrointestinal bleeding (NVUGIB). We aimed to perform a systematic review characterizing the effectiveness of DEP in patients with NVUGIB.

Methods A literature search until July 2021 using OVID MEDLINE, EMBASE, and ISI Web of Knowledge identified studies addressing DEP in NVUGIB. A series of meta-analyses were performed assessing outcomes amongst observational and intervention studies for DEP signal positive and negative lesions as well as DEP-assisted versus standard endoscopies. The primary outcome was "overall rebleeding"; secondary outcomes included all-cause mortality, bleeding-related mortality, need for surgery, length of stay, ICU stay and angiography.

Results Fourteen studies were included from 1911 citations identified. Observational studies compared bleeding lesions with DEP positive versus DEP negative signals 11 studies, n = 800 pre-hemostasis that includes 5 studies, n = 148 with post-hemostasis data. Three interventional studies (n = 308) compared DEP-assisted to standard endoscopy management. DEP signal positive versus negative lesions both prior to or following any possible hemostasis were at greater risk of overall rebleeding (OR = 6.54; 95% CI 2.36; 18.11, I2 = 46% and OR = 25.96; 95% CI 6.74; 100.0, I2 = 0% respectively). The use of DEP during endoscopy significantly reduced overall rebleeding rates (OR = 0.27; 95% CI 0.14; 0.54). When removing outcomes analysis for which only one study was available, all evaluable outcomes were improved with DEP characterization of management guidance except for all-cause mortality.

Fig. 1

Conclusions DEP-related information improves on sole visual determination of the rebleeding risk of a NVUGIB lesion with DEP-guided management resulting in decreased overall rebleeding, bleeding-related mortality and need for surgery.
Patients were divided into a direct puncture (DGE, n = 49) and balloon-assisted endoscopy (BAGE, n = 27), and EUS-guided double-balloon-occluded gastrojejunostomy bypass (EPASS, n = 67) subgroups. When DGE was compared with GAVE in the Czech Republic, identify differences in the availability of specialized therapeutic methods and estimate the number of patients refractory to endoscopic argon plasma coagulation (APC) and requiring other therapeutic methods.

Methods Web based anonymous questionnaire focused on epidemiology and typical clinical approach to diagnosis and therapy of GAVE among members of Czech Gastroenterological Society.

Results From analysis of 48 responses estimated prevalence of GAVE is 1-2 per 1000 gastroscopies, in half of patients related to portal hypertension. In two thirds of them, endoscopic therapy is indicated with long term efficacy in about 70%. Proton pump inhibitors are extensively prescribed and endoscopic therapy with APC is commenced in patients with anemia predominantly. Other drugs or endoscopic techniques are available in 10 % of hospitals only. Common technique of APC procedure includes 3-4 sessions in 4 weeks interval. In failure of initial series of APC, other type of intervention including radiofrequency ablation, band ligation or use of another drugs (e.g. thalidomide) is indicated in one third of patients only. Majority of patients are treated by multiple APC procedures for many months with limited effect only. In 2-3 % of patients, surgical procedure is indicated for the failure of other therapy.

eP559V “GASTRIC METASTASIS, A RARE SITE OF BREAST CANCER METASTASIS”

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DOI 10.1055/j-0042-174512

Breast cancer is the most frequently diagnosed cancer in woman. 63-year-old woman with a history of invasive lobular breast cancer. Bone marrow and bone metastasis were identified. A follow-up PET-CT showed an increase uptake in known bone lesions. Due to epigastric pain, nausea and hyporexia, a gastroscopy was performed. An atrophic aspect area of 40mm at gastric fundus, with aberrant and large blood vessels on the surface was observed. Biopsies were taken. The gastric lesion was diagnosed as metastatic disease from breast cancer, confirmed by immunohistochemistry. Breast cancer with gastric metastases is rare. Clinical symptoms and endoscopic findings are nonspecific.

eP560 CLINICAL APPROACH TO GASTRIC ANTRAL VASCULAR ECTASIA (GAVE) IN THE CZECH REPUBLIC

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DOI 10.1055/j-0042-174513

Aims The aim of the study was to assess real clinical approach to the patients with GAVE in the Czech Republic, identify differences in the availability of specialized therapeutic methods and estimate the number of patients refractory to endoscopic argon plasma coagulation (APC) and requiring other therapeutic methods.

Methods Web based anonymous questionnaire focused on epidemiology and typical clinical approach to diagnosis and therapy of GAVE among members of Czech Gastroenterological Society.

Results From analysis of 48 responses estimated prevalence of GAVE is 1-2 per 1000 gastroscopies, in half of patients related to portal hypertension. In two thirds of them, endoscopic therapy is indicated with long term efficacy in about 70%. Proton pump inhibitors are extensively prescribed and endoscopic therapy with APC is commenced in patients with anemia predominantly. Other drugs or endoscopic techniques are available in 10 % of hospitals only. Common technique of APC procedure includes 3-4 sessions in 4 weeks interval. In failure of initial series of APC, other type of intervention including radiofrequency ablation, band ligation or use of another drugs (e.g. thalidomide) is indicated in one third of patients only. Majority of patients are treated by multiple APC procedures for many months with limited effect only. In 2-3 % of patients, surgical procedure is indicated for the failure of other therapy.
Conclusions Initiation of endoscopic therapy, therapeutic outcomes and use other methods besides APC are very variable in the Czech Republic. Up to 30 patients annually may benefit from extension of therapeutic modalities beyond APC failure.

eP561 Efficacy, Safety and Clinical Outcomes of Endoscopic Mucosal Resection (EMR) and Endoscopic Submucosal Dissection (ESD) in Patients with Gastric and Duodenal Neuroendocrine Tumors

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Aims We aim to evaluate efficacy, safety and clinical outcomes of EMR and ESD for gastroduodenal neuroendocrine tumors (gNETs and dNETs).
Methods We retrospectively reviewed consecutive patients with gNETs and dNETs who underwent EMR or ESD, from January 2005 to September 2021.
Results We resected 54 gNETs (49 type I and 5 type III) and 12 dNETs. Fourteen gastric lesions underwent ESD, whereas 40 EMR. In the duodenum 9 ESD and 3 EMR were performed. Median lesion diameter of the gNETs, removed by ESD and by EMR, was 15 and 8 mm respectively, whereas for dNETs was 11 and 10 mm respectively.
En bloc resection was achieved in all procedures. ESD provided R0-resection in 50 % of gNETs and in 55 % of dNETs. EMR reached R0-resection in 95 % of gNETs and in 53 % of dNETs. R1 was always due to focal involvement of the vertical margin. Perforations occurred in 14 % of gNETs ESD, in 5 % of gNETs EMR and in 33 % of dNETs ESD. All perforations were endoscopically managed except one which required surgery. All NETs were well-differentiated with low and moderate proliferation index. During follow-up (mean of 43 months for gNETs and 30 months for dNETs) we did not observe any recurrence or metastasis.
Conclusions In our experience EMR and ESD provide an excellent en bloc resection rate for gastroduodenal NETs. R0 resection rate of ESD is disappointing because tumors larger than 10 mm are more likely to have a deeper infiltration into the submucosa. However, this seems to not affect the prognosis.

eP562V Effective Single-Session Green Laser Hemostasis of Refractory Bleeding from Gastric Adenocarcinoma

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Radiotherapy is used to control bleeding from gastric malignancy, but it’s inconvenient for frail patients. Neodymium-YAG (green) lasers are widely available in Urology. An 89-yr-old woman with unresectable gastric adenocarcinoma experienced bleeding requiring frequent blood transfusions. Gastroscope showed large antral ulceration with exposed vessels. Sclerotherapy failed to control bleeding. Patient performance status was otherwise good. A transpyloric duodenal SEMS was placed to treat impending outlet obstruction and a green laser probe was used to ablate visible vessels/bleeding spots within large ulcerated area. The patient did not experience any subsequent bleeding throughout the 5-months she survived on palliative care.

eP563 Pregnancy after ESG: Are All Efforts Thwarted? A Case Series

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Aims A retrospective analysis of a prospective database was conducted to evaluate weight trajectories and lifestyle modification in women became pregnant after ESG.
Methods Weight indices and the evolution of major obesity-associated morbidities (HBP, H-INS, T2DM and OSAS) and the Bariatric Analysis and Reporting Outcome System (BAROS) questionnaire were analyzed at the begging, at the end of pregnancy and at the first follow-up visit after the delivery.
Results From May 2017 to October 2021, 228 women underwent ESG and 7 of them (mean age 32.4 ± 6.9 years) became pregnant after ESG, with a mean interval of 7.3 ± 3.8 months after the procedure. Baseline BMI was 40.5 ± 6.9 kg/m2. One patient reported H-INS, one T2DM and another one H-INS and HBP. At the beginning of pregnancy WL, EWL, TBWL and BMI were 22.9 ± 13.0 kg, 65.5 ± 34.8 %, 21.8 ± 10.8 % and 29.8 ± 4.9 kg/m2, respectively. At the delivery they were 9.0 ± 12.2 kg, 26.7 ± 34.8 %, 8.5 ± 10.8 % and 35.0 ± 5.7 kg/m2. BAROS score was 5.2 ± 2.2 at the beginning of pregnancy and 3.2 ± 2.2 at the delivery.
The patient with H-INS and HBP experienced a resolution of them, the one with H-INS had an improvement before pregnancy, the patient with T2DM had an improvement during the gestation. Six patients reached the follow-up visit after delivery. WL, EWL, TBWL and BMI were 11.8 ± 16.1 kg, 35.1 ± 45.3 %, 11.2 ± 14.0 and 34.4 ± 7.1 kg/m2, respectively. The BAROS score was 3.5 ± 2.7.
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Correction

Correction: ep113 EVALUATION OF THE EFFECT OF GASTRIC TARGETED BIOPSY SAMPLING WITH I-SCAN OE TECHNOLOGY ON THE DIAGNOSTIC YIELD OF THE CLO TEST OF H. PYLORI INFECTION


In the above-mentioned article, the institution affiliation 2 has been added. This was corrected in the online version on May 10, 2022.