study was to evaluate the technical success of the percutaneous retrograde access procedure after failed antegrad recanalization in Thromboangiitis Obliterans (Buerger's Disease) patients. **Method(s):** Thirteen consecutive patients (12 men, 1 women, mean age: 40.3 ± 5.6 years) and 14 arteries underwent retrograde puncture for recanalization with a diagnosis of TAO (Thromboangiitis Obliterans), between April 2015 and December 2018. After unsuccessful attempts using the antegrade approach, retrograde puncture were used under ultrasound and fluoroscopic guidance. Ipsilateral retrograde access was attempted in three patients with SFA (superficial femoral artery) in three patients with PTA (posterior tibial artery), in two patients with PEA (peroneal artery) and in five patients ATA (anterior tibial artery). The primary purpose of the study was to evaluate the technical success of the procedure in obtaining the ability to pass the wire across target artery and providing blood flow to the below the knee arteries. **Result(s):** Technical success was achieved 12 of 13 arteries (92.3%). In a patient who underwent PTA puncture, the retrograde approach failed because the guidewire could not be passed through the occlusive artery. There were no major complications in any of the cases. **Conclusion(s):** Endovascular treatment is a technically feasible and potentially effective treatment modality for Buerger's disease. Retrograde interventions in TAO patients may improve technical success and clinical improvement, especially in cases where antegrade approach fails.

C 3.14

Radiation Exposure During Varicocele Embolization: Does Access Site and Treated Side Matter?

Abdulaziz Khalid Alqubaisi, Ali S. Alsaadi, Mohammad Arabi

*KSAUHS-NGHA, Riyadh, Saudi Arabia.
E-mail: Abdulazizkq@hotmail.com*

Background: This study aims to evaluate radiation exposure during varicocele embolization and correlate it with access site and embolized side. **Method(s):** This retrospective study included 39 patients who underwent varicocele embolization between Jan 2015 to Dec 2018. Embolization was done in all cases using a combination of coils and sclerosing agents in Sandwich technique. Bilateral embolization was done in 13 patients, while only the left side was embolized in 26 patients. Jugular vein access was used in 10 patients, while the brachial and basilic veins were used in 14 and 15 patients, respectively. Dose area product (DAP) and total fluoroscopy time were collected and correlated to the treated side and access. Statistical analysis was done on (StatPlus:mac, AnalystSoft Inc., Version v6) using wilcoxon and kruskal-wallis tests. **Result(s):** The mean fluoroscopy time for left varicocele embolization was 26.76 minutes (8.23 minutes – 49.6 minutes), which was not statistically different ($p=0.16$) compared to bilateral embolization mean fluoroscopy time of 33.2 minutes (10.3 minutes – 58.83 minutes). There was no statistical difference ($p=0.37$) between the mean DAP for left varicocele embolization of 106239 mGy.cm^2 (12672–590429) compared to bilateral DAP of 107153 mGy.cm^2 (29593–257259). There was no significant difference ($p=0.22$) between the mean DAP when using different vascular access (Brachial, DAP= 149416 mGy.cm^2), (Jugular, DAP= 87569 mGy.cm^2) (Basilic, DAP= 79179 mGy.cm^2). However, the basilic vein access was correlated with significantly shorter mean fluoroscopy time of 22 minutes (8.97

minutes – 42.5 minutes) compared to brachial vein (32 minutes, 8.23 minutes – 58.83 minutes) and jugular vein (34 minutes, 8.3 minutes – 49.6 minutes) with a p-value of 0.0429. **Conclusion(s):** The choice of vascular access may help in reducing fluoroscopy time during varicocele embolization, without significant difference between left or bilateral embolization. This reduction in fluoroscopy time did not translate into significant difference in DAP, which indicates the need for stricter radiation precautions such as collimation and less angiographic exposures.

OC3.15

Embolization of Procedures-Related Upper Gastrointestinal Bleeding: A Systemic Review

Yasir Mohammed Nouri, Ji Hoon Shin¹, Jin Hyoung Kim¹, Jong Woo Kim¹

*Ministry of Health, King Fahad General Hospital, Jeddah, Saudi Arabia,
¹ASAN Medical Center, University of Ulsan, Seoul, South Korea.
E-mail: yasirnouri@hotmail.com*

Background: Procedure-related upper gastrointestinal bleeding considered as a rare cause of upper gastrointestinal bleeding (UGIB). In this presentation, we will review the most common procedures related UGIB with emphasis on endovascular role in diagnosis and treatment. **Method(s):** From 2001 to 2017 data, representative cases of procedure-related upper gastrointestinal bleeding were collected with their management details. **Result(s):** There are various categories of procedure-related upper gastrointestinal bleeding; Endoscopic mucosal resection / submucosal dissection, endoscopic ultrasound (EUS)-guided Intervention, percutaneous gastrostomy, and hepatobiliary procedures such as PTBD or ERCP. It presented as hematemesis, melena, or hemobilia which is associated with hepatobiliary intervention. In most cases the bleeding resolved spontaneously and, of those that did not, the majority responds to conservative management or endoscopy. Endovascular intervention was mainly embolization and stent graft insertion. **Conclusion(s):** In failed endoscopic treatment due to massive bleeding or in case of hemodynamically unstable patients or in hepatobiliary procedure related bleeding, endovascular intervention should be considered. Endovascular embolization represents the most viable treatment option regarding it is less invasive and not associated with complication of general anaesthesia.

OC4.1

Duplex-Ultrasound Guided Percutaneous Management of Pseudoaneurysm of Branch of Visceral Artery

Manoj Kumar

*King George's Medical University, Lucknow, Uttar Pradesh, India.
E-mail: docmdeo@gmail.com*

Background: To describe the role of Duplex-Ultrasound Imaging (DUI) for diagnosis of pseudoaneurysm (PSA) of a branch of offending visceral artery (b-OVA) followed by DUI-guided percutaneous embolization. **Method(s):** 46 patients were referred to us for the management of intractable renal hematuria. 21 cases had PSA after nephrolithotomy. 12 cases had PSA after guided renal biopsies. 6 cases had PSA following road-traffic accident. 2 cases of the tuberosus-sclerosis-complex developed PSA. 3 cases of arterio-venous and 2 cases of arterio-calyceal fistulae had

been excluded from cohort. 6 cases of intractable vaginal/uterine haemorrhage. Among these, a unique complex case presented with post-hysterectomy and in subsequent course of management, surgical ligation of anterior division of both iliac arteries and 5 cases presented after cesarian surgery/dilatation and curettage, 4 cases of post-traumatic G.I. Bleed due developed PSA of b-hepatic artery, 10 cases of pancreatitis induced PSA from b-GDA and splenic arteries. 5 cases of G.I. bleed had bowel tumours were excluded by CTA. Total 61 PSA of b-OVA were included. DUI-guided-percutaneous-management (DPM) is a four-step process. Firstly, identification of PSA-sac of b-OVA. Secondly, puncture of PSA-sac with 18 G puncture-needle under DUI. Subsequently, injection of gelfoam-slurry followed by NBCA-glue. Thrombosis of the PSA-sac was confirmed by absent flow on DUI during the procedure. **Result(s):** 60 PSA of b-OVA managed successfully and followed-up clinically, by DUI and CT-Angiography (if needed). A case of large sized (5x4 cm size) PSA of b-segmental-renal-artery developed pulmonary-thromboembolism and managed end-vascular coiling. **Conclusion(s):** DPM of PSA of b-OVA is safe, feasible and cost-effective modified embolisation management technique in a limited resources scenario.

OC4.2

Initial Experience with the Covera Covered Stent for the Treatment of Dysfunctional or Thrombosed Arterio-Venous Grafts a Retrospective Analysis of 43 Patients

Michail Theofanis, Panagiotis Kitrou, Panagiotis Papadimitos, Spyros Papadoulas, Evangelos Papachristou, Konstantinos Katsanos, Dimitrios Karnabatidis

*Department of Diagnostic and Interventional Radiology, Patras University Hospital, Patras, Greece.
E-mail: mixalistheofanis@hotmail.com*

Background: To retrospectively evaluate the safety and effectiveness of the Covera covered stent (CS) for the treatment of dysfunctional or thrombosed arterio-venous grafts (AVGs). **Method(s):** Within 21 months (February 2016 – November 2017), 61 patients underwent CS placement in our department for the treatments of their dysfunctional AVGs. Data were available for 43 patients, undergoing 43 procedures, using 43 devices. Mean follow-up was 214 days (20-524 days). Lesion characteristics were as follows: 33 cases with venous-graft anastomosis (VGA) stenosis, 7 cases of puncture zone stenosis, 12 cases of in stent-graft (SG) stenosis, 5 cases of pseudoaneurysm treatment. Twenty-six patients presented with thrombosis while 26/43 case were restenotic lesions. Primary outcome measure was target lesion primary patency (TLPP) at six months, while secondary outcome measures included factors influencing primary outcome. **Result(s):** Technical success was 100%. TLPP was 60.64% at six months (median TLPP 264 days). During the whole follow-up period 17 AVGs were thrombosed and 11 cases required a redo procedure. There was no significant difference in terms of TLPP when de novo lesions were compared with restenotic, in SG restenosis vs. non in-SG stenosis, patients presented or not with thrombosis, or whether lesion was placed in the puncture zone or in VGA. A significant difference was observed between cases presented with thrombosis after treatment vs. those that

were not thrombosed (133 vs. 285 days respectively. $p=0.007$). **Conclusion(s):** Use of the Covera CS for AVG treatment is safe and effective in every case presented in this retrospective analysis.

OC4.3

Endoluminal Stenting for Acute Obstructing Colonic Cancer

Balamurugan Rathinavelu, Shahabazali Patil, Shamsa Abdalla Alraeesi, Salem Nasser Al Harthi, Ateq Ali Al Messabi, H. Alzarooni, S. Alsheebani

*Mafraq Hospital, Abu Dhabi, UAE.
E-mail: brathinavelu@seha.ae*

Background: Colorectal cancer is a common disease and up to 30% of colon cancers present as emergency. The elective surgery mortality rate is 3.5 to 5 % whereas emergency surgery, morbidity is 40% and mortality 15%. The objective of the study is to assess our colonic stenting experience and compare it with available International published data, advantage of colonic stenting in acute setting and improve treatment quality provided at our hospital. **Method(s):** Retrospective data collection using Cerner system from 2016 to Oct 2018. Inclusion criteria: Patients with left sided colonic adenocarcinoma coming to emergency department of our hospital with acute colonic obstruction. Patient records were analysed for demographic data, procedure indication, procedural details, outcome, screening time, hospital stay, complications. **Result(s):** Emergency admission with obstructing left sided colorectal cancer = 12; 5 underwent emergency diverting colostomy (Group 1) and 7 underwent colonic stenting (Group 2). Mean age was 66.5 and 60.5 respectively. There was no major complication in colostomy group, whereas 1 technical failure in stent group. Mean length of hospital stay was 13.5 days (colostomy group) and 1-3 days (stent group). Mean length of ICU stay was 2 days in group 1 whereas no ICU admission required in group 2 patients. **Conclusion(s):** Advantage of Colonic Stenting: (1) Combined procedure colonoscopy and IR. This gives reduced radiation dose due to reduced screening time. (2) Biopsy of the lesion can be performed at the same time. (3) Convert emergency to elective surgery. (4) Reduction of surgery related complications. (5) Reduced ICU and overall hospital stay. (6) Major surgery may be avoided for patients with end stage disease and unstable comorbid disease. (7) Better quality of life quality.

OC4.4

Aspiration Thrombectomy for Acute Limb Ischemia: A Single Center Experience

Maria Antonella Ruffino, Maria Antonella Ruffino, Marco Fronda¹, Andrea Discalzi, Andrea Mancini, Pierluigi Muratore, Denis Rossato, Dorico Righi, Paolo Fonio¹

*Department of Diagnostic Imaging and Radiotherapy, Vascular Radiology, A.O.U. Città della Salute e della Scienza di Torino,
¹Department of Surgical Sciences, Radiology Unit, University of Torino, Torino, Italy.
E-mail: mariaantonellaruffino@gmail.com*