Background: Urinary leakage is uniquely associated with partial nephrectomy (PN) and remains a challenging complication to treat. Recently, minimally invasive percutaneous approach to obliterate the urinary leakage after PN has been developed. **Method(s):** Data of 10 consecutive patients who underwent percutaneous obliteration of urinary leakage after PN using coil and NBCA were reviewed. A urinary fistulography was performed via the drainage catheter previously placed in the urinoma, and a pyelography was performed to locate the fistulous tract. If the fistulous tract was clearly visualized, super-selective embolization of the fistulous tract with coils and urinoma cavity sealing with NBCA were performed. In cases where the fistulous tract could not be clearly visualized, only urinoma cavity sealing was performed. Technical success was defined as complete occlusion of visualized urinary fistulous tract and followed urinoma cavity sealing. Clinical success was defined as control of current urinary leakage and either disappearance or decrease in size of the urinoma on follow-up computed tomography (CT). **Result(s):** In seven (70%) patients who showed obvious urinary fistulous tract, coil embolization of urinary fistulous tract and followed by sealing of urinoma cavity with NBCA was performed. Only sealing of urinoma cavity with NBCA was performed in three patients (30%) who could not visualize the distinct fistulous tract. All of the patients showed gradually decrease in size or complete disappearance of urinoma on follow-up CT without further symptom and sign of urinary leakage during the follow-up period (mean, 44.6 weeks; range, 11-117 weeks). **Conclusion(s):** Percutaneous obliteration of urinary leakage after PN using coils and NBCA is safe and effective. On the basis of the urinary fistulography, assessed by drainage catheter in the urinoma and pyelography, super-selective embolization of fistulous tract with coil and followed sealing of urinoma cavity with NBCA or only sealing of urinoma cavity offer complete occlusion of the urinary leakage.

OC3.3

Combination of Preoperative Ultrasonographic Mapping and Radio-Guided Occult Lesion Localization in Patients with Locally Recurrent/Persistent Papillary Thyroid Cancer a Pilot Study

Amr Maged Elsaadany, Mohamed Alrowaily¹

Sandwell and West Birmingham Hospital, Birmingham, UK, ²King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia.
E-mail: dramrmaged@hotmail.com

Background: Better follow-up of patients with thyroid cancer and more sensitive detection leads to detection of recurrences in the neck. Our aim is to explore the feasibility of (ROLL) for radio-iodine negative cervical recurrences from thyroid cancer in patients with previously operated neck compartments to improve the surgical success and reduce the complication rates. **Method(s):** Pre and postoperative thyroglobulin levels and neck US were performed. The results of fine needle aspiration (FNA) cytopathology were available. In the morning of surgery, biopsy proven recurrent/persistent tumoral lesions were injected with Tc-99m labeled macro-aggregated albumin under US guidance. Thyroid bed exploration was carried out based on the location of lesions with the guidance of intra-operative gamma probe and neck map. The lesions showing high count rates were

resected and labeled separately for histopathologic study and to ascertain removal of the radiolabeled lesions. **Result(s):** Total of 13 patients (8 females and 5 males) were included. Technical success rate was achieved in all patients with successful surgical removal of the lesions. All the lesions removed were positive on histopathologic assessment. Significant drop of the TG levels was achieved in all patients. **Conclusion(s):** The ROLL technique is feasible in patients with loco-regional recurrence particularly useful in patients already submitted to cervical dissections and/or with small lesions located in surgically difficult sites. It can therefore have clinical role in the management of cervical recurrences.

OC3.4

Efficacy and Safety of Radiofrequency Ablation for Benign Thyroid Nodules: Initial Clinical Experience in Middle East Area

Kwang Hwi Lee, Hong Dae Kim, Eui Yong Jeon

Sheikh Khalifa Specialty Hospital, Ras Al Khaimah, UAE.
E-mail: lkh770429@naver.com

Background: Radiofrequency ablation (RFA) is a minimal invasive treatment modality for variable tumors of liver, kidney, bone etc. RFA has been also used to treat benign thyroid nodules to improve patient's symptoms. However, thyroid RFA has been seldom introduced in middle east area. **Method(s):** A total 58 benign thyroid nodules in 45 patients (M:F= 8:37, mean age: 39 years $\pm$ 12.2) underwent ultrasound (US) guided percutaneous RFA using an internally cooled electrode. We investigated clinical symptom, cosmetic score (4-point scale), composition, thyroid volume. We assessed complications and volume reduction rate (VRR) in follow-up (median: 10 months). **Result(s):** Clinical manifestation was palpable mass (n= 10), discomfort (n=15), dysphagia (n= 16), voice change (n= 1), dyspnea (n=3). Cosmetic score were 3 (n= 25, cosmetic problem on swallowing only) and 4 (n= 20, readily detected cosmetic problem). Composition was predominantly cystic (n= 3), predominantly solid (n= 6), solid (n= 49). Mean initial thyroid volume was 18.13 ml $\pm$ 61.5 (range: 1.12 ~ 208.6). After RFA, mean thyroid volume was 6.07 ml $\pm$ 15.4 (0.16 ~ 75.3). Major complications were not detected. Perithyroid hemorrhage occurred during procedure in 3 patients, and it was spontaneously resolved in a month. All patients reported improvement of their symptoms after RFA. Mean VRR was 70.2% $\pm$ 25.7 (2.6 – 98.8). **Conclusion(s):** RFA is an effective and safe nonsurgical therapeutic method to manage benign thyroid nodules, and it can be widely spread in Middle East area.

OC3.5

Hostile Necks Management: Saudi Experience with Heli-Fx Endoanchors

Samer Koussayer

King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia.
E-mail: sakous@msn.com

Background: Most neck challenges comes from short neck which is consider the main exclusion from standard EVAR treatment. ChEVAR and fEVAR are the most common solutions

but it requires special skills and long waiting time for fEVAR. Also management of type 1 endoleak is the most challenging leak to deal with. The emerging technology with endoanchors brought reasonable solution to deal with short neck using standard EVAR and to treat type 1 endoleak. **Method(s):** We will review the endoanchors registry and our experience in Saudi in using endoanchors as prophylactic to prevent and as therapeutic to treat type 1 endoleak. **Result(s):** The result from endoanchors registry and our experience is very promising. **Conclusion(s):** Endoanchors can be used as prophylactic in challenge neck anatomy to prevent type 1 endoleak and as therapeutic to treat type 1 endoleak.

OC3.6

Endovascular Treatment of Visceral Arteries Pseudoaneurysms by Covered Stents

Mohammad Elhemeily, Charles Roux¹, Marine Bravetti¹, Wafik Turki¹, Dan Toledano¹, Marine Lataud¹, Samia Boussouar¹, Alban Redheuil¹, Nour Dahbi¹, Philippe Cluzel¹

Ain Shams University, Cairo, Egypt, ¹Département d'Imagerie Cardiovasculaire et de Radiologie Interventionnelle et Thoracique, Hôpital Universitaire La Pitié-Salpêtrière, Paris, France. E-mail: m.elhemeily@med.asu.edu.eg

Background: Pseudoaneurysms of the visceral arteries are rare, but remain a therapeutic challenge given the high morbidity and mortality of the surgical treatment. We evaluated the value of their endovascular treatment by covered stents. **Method(s):** This is a retrospective, single-center study conducted from December 2015 to June 2018. All patients presenting with pseudoaneurysms of the visceral arteries (coeliac trunk, superior mesenteric and inferior mesenteric arteries and their branches) documented by cross sectional imaging were included. Endovascular treatment with covered stents was done. The pseudoaneurysm cause, site, size, distance from artery origin, the artery caliber, tortuosity, the angle between the artery ostium and the abdominal aorta, the duration of the procedure, the access site, the materials used, the technical success rate, the immediate and delayed complications at the first and last follow up were collected. **Result(s):** 21 interventions were performed on 19 patients. The majority were males with a median age of 60 years. The pseudoaneurysms were most commonly located in the hepatic arteries with liver transplantation being the most common etiology. Right femoral access was used in 9 patients and left brachial access was used in 10 patients. The median procedure time was 58 minutes. The technical success rate was 79% (15/19). Failure was due to artery dissection (3/19) or malcoaptation of the stent (1/19). The median duration before the first follow up was 45 days and 12 months before the last follow up. Complications encountered included perforation (1/19), endoleak (1/19), recurrence (1/19), partial (3/19) or complete (2/19) thrombosis. There was no procedure-related mortality. **Conclusion(s):** Endovascular treatment of visceral arteries pseudoaneurysms by covered stents is feasible, safe and effective. The brachial access is preferred in technically challenging cases due to certain anatomical factors such as increased artery tortuosity or increased distance from the artery origin.

OC3.7

Modified Pressure Cooker Technique: An Effective Way to Control Ethylene Vinyl Alcohol Copolymer Reflux in Peripheral Arteriovenous Malformations

Virendersingh Kapoorsingh Sheorain, Manju Bharath Nr

Medanta The Medicity Hospital, Gurgaon, Haryana, India. E-mail: veeru40395@gmail.Com

Background: Embolization of high flow pAVMs is a technical challenge. ethylene vinyl alcohol (EVOH) copolymer is a safe and effective liquid embolic agent routinely used in intracranial AVMs and its use is recently reported in peripheral AVMs as well. Most important technical challenge during ethylene vinyl alcohol (EVOH) copolymer injection is control of reflux. Modified Pressure Cooker Technique (mPCT) is a method to prevent reflux of EVOH which is well described in intracranial AVMs, however not reported in peripheral AVMs. In Modified Pressure Cooker Technique a glue plug is created proximal to the delivery tip of detachable microcatheter in a unique way. We describe successful use of modified Pressure Cooker Technique (mPCT) in peripheral AVMs to control reflux and achieve adequate embolization. **Method(s):** Three patients with high flow peripheral AVMs were treated with ethylene vinyl alcohol (EVOH) copolymer (MENOX 18) embolization using modified Pressure Cooker Technique. We used Ultrasound guided Femoral access in all 3 cases. We used coaxial system using 7F 70 cm long Guiding sheath and intermediate catheter DAC 070. We used Combination of EVOH compatible detachable microcatheter (APOLLO 3 cm tip) and a non detachable microcatheter (Echelon 10) for nBCA glue plug creation needed for mPCT. We injected EVOH copolymer (Menox 18) via detachable APOLLO micro catheter and NBCA injection via the proximal catheter to create a glue plug to prevent EVOH copolymer reflux during injection of EVOH copolymer. **Result(s):** We achieved 100% Technical success: ethylene vinyl alcohol (EVOH) copolymer did not reflux proximal to the glued segment of the detachable microcatheter and we had safe removal of detachable microcatheter post embolisation. Satisfactory embolization of the target nidus in all. No intra-operative complications. **Conclusion(s):** Use of modified Pressure Cooker Technique (mPCT) in peripheral AVMs is: (1) Safe and effective for ethylene vinyl alcohol (EVOH) copolymer injection. (2) Prevents reflux and allows forward progression of ethylene vinyl alcohol (EVOH) copolymer into nidus. (3) Can be applied in peripheral AVMs whenever ethylene vinyl alcohol (EVOH) copolymer is used as the embolic agent.

OC3.8

Safety and Efficacy of Vascular Closure Devices in Antegrade Femoral Intervention: A Single Center Experience

Aeed Saad Alaklabi, Othman Zayed Alshehre, Juman Mohammed Alghamdi, Sulaiman Mohammad Alsharfan¹, Mohamad Arabi, Abdulrahman Jan Alvi

King Abdulaziz Medical City, ¹Security Forces Hospital, Riyadh, Saudi Arabia. E-mail: asaderm@gmail.com