

Background: Acute lower-extremity ischemia (ALI) is associated with high in-hospital amputation rates of 10%–30%, 1-year mortality rates of 15%–20%, and low amputation-free survival rates of 50%–65%. Although catheter-directed thrombolysis (CDT) is associated with a lower morbidity rate and is as effective as surgery for stage I and IIa ALI, it takes substantial time to be effective. The Indigo System (Penumbra, inc) is designed for aspiration thromboembolectomy available from 3 f to 8 f in size. The size-matched “separator” allows the catheter to be cleared of occlusive material without catheter removal from the area of thrombus. It has a pump-driven vacuum for consistent aspiration. Preliminary results of this device in the treatment of ALI have been recently published. We want to report our single center experience with percutaneous aspiration thrombectomy (pat) as a first line treatment for acute lower limb ischemia (ALI). **Method(s):** Twenty-one patients who underwent pat for ALI from March 2017 to June 2018 were included. The primary end-point was complete thrombus aspiration with return to patency of the target vessel. Adjunctive treatment for underlying stenosis or occlusion was not considered indicating technical failure, while the use of additional treatment for thrombus removal was considered as a technical failure. **Result(s):** The technical success was obtained in 18/21 patients (85.7%); 2 of the remaining 3 patients required additional treatment for thrombus removal and in 1 the pat failed to restore patency and the patient underwent open surgical treatment. No complications related to pat were reported. **Conclusion(s):** The technical success was obtained in 18/21 patients (85.7%); 2 of the remaining 3 patients required additional treatment for thrombus removal and in 1 the pat failed to restore patency and the patient underwent open surgical treatment. No complications related to pat were reported.

OC4.5

Angiographic Anatomy of Prostatic Arteries in 168 Patients Undergoing Prostate Artery Embolization for Benign Prostatic Hyperplasia

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Background: Prostatic artery embolization (PAE) has been established as a safe and effective treatment option for symptomatic benign prostatic hyperplasia. Thorough knowledge of detailed prostatic artery (PA) anatomy is essential to guarantee technical success and to avoid potential complications of non-target embolization. We aim to provide a pictorial review of PA and prevalence of each anatomical variant, in addition to important anatomical considerations, extracted from our case series. **Method(s):** We performed PAE on 168 consecutive patients until 2019. The most commonly used tools were 5-French cobra-head angiographic catheter and 2.7-French microcatheter. Images were analyzed by the operators. **Result(s):** In the 168 patients, 331 PAs were angiographically identified. Double arterial supply on the same side was noted in 9 patients (5%). In 10 patients (6%), only a unilateral PA was identified. No PA could be identified in 2 patients (1%). The frequencies of origins of PAs were found to be as follows: 133 (40%) from superior vesical artery (SVA), 97 (29%) from internal pudendal artery (IPA), 70 (21%) from obturator artery, 29 (9%) originated directly from anterior division

of internal iliac artery and only 2 (<1%) originated from inferior gluteal artery. Contrast filling of contralateral PA main trunk was identified in 31 patients (18%). Penile anastomosis was identified with 28 PAs (8%) and rectal anastomosis was observed with 14 PAs (4%). **Conclusion(s):** PA has variable origins, even for both sides in the same patient. Knowledge of its detailed anatomy and anastomosis with nearby arteries is essential for safe and timely performance of PAE.

OC4.6

Safety and Efficacy of Endovascular Revascularization of Single Patent Arch Artery in Patients with Takayasu Arteritis: Short Term Results

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Background: Takayasu arteritis is a form of large vessel vasculitis commonly affecting the aorta and its major branches. Steno-occlusive lesions of all arch vessels can cause severe neurologic symptoms. There is paucity of literature regarding the role of endovascular revascularization in such cases. The present report describes immediate and short term follow-up results with plain balloon angioplasty of severely stenosed single patent arch arteries. **Method(s):** Angioplasty was performed in 5 consecutive patients with Takayasu arteritis (age, 22 – 50 years; mean, 31.0 ± 12.0416 years) with cerebrovascular symptoms caused by severe stenotic lesions of arch (ie, carotid, vertebral, brachiocephalic and 1st part of subclavian proximal to vertebral take-off) arteries. **Result(s):** Angioplasty was attempted in 8 stenotic lesions: vertebral (n=3), carotid (n=1), brachiocephalic (n=2) and 1st part of subclavian artery (n=2). Five lesions were discrete and three were diffuse. Balloon angioplasty was performed successfully in all patients. Improvement of luminal diameter from 1.625 mm ± 0.5825 mm to 4.75 mm ± 0.8452 mm (P < .0001), and the reduction in diameter of stenosis from 73.125% ± 14.1263% to 16.25% ± 8.3452% (P < .0001) was observed. No immediate procedure-related complication or significant neurologic deficits occurred. The presenting symptoms improved in all patients. On short term follow-up of upto 4 months, none of the patients had recurrence of neurologic symptoms. **Conclusion(s):** Plain balloon angioplasty of a sole patent arch artery in Takayasu arteritis is safe and effective, and provides excellent symptomatic relief in such patients.

OC4.7

Glue Embolisation of Truncal Varicosities with Direct Puncture Technique: Is it a Threat to Thermal Ablation? A Prospective Study

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Background: Varicose veins is one of the most common disease presented to vascular clinic. Though there are many endovascular methods are available for the treatment of varicose veins, most of them are costly procedures. we need a treatment with lower

cost and acceptable success rate, so that all group of people will be benefitted. With this background we did a study on glue embolisation of truncal varicosities. **Aim of the Study:** (1) To evaluate the success rate of adhesive embolisation using N Butyl 2 Cyanoacrylate. (2) To compare the occlusion rate with RFA. (3) To analyse the cost difference between both. **Method(s):** Study period: October 2017 to October 2018. Inclusion criteria: Incompetent SFJ with reflux into GSV. Exclusion criteria – Deep vein thrombosis. Glue embolisation of great saphenous vein (GSV) is planned atleast for thirty patients. The great saphenous vein in thigh was punctured directly with 21 G needle atleast at 7 - 10 sites with a gap of 5 cms and 0.1-0.2 ml of glue is injected at each sites. After injection, compression is done with ultrasound probe for 45 seconds at that site. The injection is started from the caudal to cranial direction. The procedure is performed without perivenous tumescence. The patients are advised to come for follow up at one week, one month and six months intervals. The Patients will be evaluated for occlusion of GSV as well as complications associated with it. The results are compared with the results of RFA of varicose veins in our institute. **Result(s):** (1) Glue embolisation occlusion rate at 6 months: 93%. (2) Comparable to RFA at 6 months gap. (3) Decrease in the cost by >300%. **Conclusion(s):** The efficacy of glue embolisation of varicose veins done with direct puncture is similar to RFA at 6 months follow up and it can be done with decreased cost (<1/4th of RFA).

OC4.8

Use of Glue in Varicocele Embolization: A Single Centre Experience and Literature Review

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Background: The purpose of this study is to assess the patient's outcome from symptomatic varicocele treated with two methods of embolization techniques one with coils combined with sodium tetradecyl sulphate (STS) and the other technique with N-butyl-2-cyanoacrylate (Glue) in terms of immediate technical and clinical success, complications rates, procedure time, and assess any significance difference in the outcome between the 2 techniques. **Method(s):** A retrospective analysis of a consecutive series of varicocele embolization procedures performed between April 1st 2015 and July 22nd 2017 was undertaken. A total of 84 were included in our study, 41 using glue (48.8%, mean age of patients 31.98 years) and 43 using coils (51.2 %, mean age of patients 32.91 years). Demographic data, indications, complications and outcomes were compared. **Result(s):** A total of 32 procedures (38.1%) were motivated by infertility (glue = 15, coils + STS = 17), 33 (39.3%) by testicular pain (glue = 14, coils + STS = 19), and 19 (22.6%) by both (glue = 12, coils + STS = 7). Minor complications were observed in 2 cases (4.9%) in glue and in 5 cases after coil + STS embolization (11.6 %). Patients reported improvement in 65.9 % with glue sample, and 58.1% with coils + STS. Both agents showed similar success rates. The patients who were referred for testicular pain reported 89.5% improvement, while those patients referred for infertility reported 42.1 % improvement. **Conclusion(s):** Varicocele embolization is a safe and effective procedure. Embolization with glue gives a similar outcome compared with coils combined with STS.

OC4.9

Early Portal Vein Thrombosis after Living Donor Liver Transplant: Interventional Radiology May be the Answer

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Background: Incidence of PVT is close to 4% in adult LDLT due to technical difficulties in PV reconstructions, mainly related to a shorter vessel pedicle and limited vessel graft. Most cases of PVT occur early (1 month from transplant) and the clinical presentation is severe acute liver insufficiency or graft failure. When it occurs late (more than 4 weeks) recurrence of portal hypertension is a dominant feature. Without treatment PVT is associated with poor survival. Therapeutic options for PVT range from systemic anticoagulation to interventional radiological (IR) treatment, to surgical revision to retransplantation. The IR options presented in the literature include thrombolysis, portal vein angioplasty, stent placement and shunt occlusion if present. The IR approach may be via percutaneous transhepatic (PT), via transjugular intrahepatic portosystemic shunt (TIPS) creation or transplenic approach. **Method(s):** A total of 430 liver transplants were done at our institution between February 2017 and December 2018. Five cases of early PVT were referred to us for IR treatment. The diagnosis was initially made on colour Doppler ultrasound and findings confirmed on contrast CT. Portal vein access was taken by ultrasound guided direct percutaneous trans-hepatic approach in all but 1 case where percutaneous transplenic approach was taken. Urokinase (1 to 5 lac units) were used for thrombolysis, in 2 cases overnight urokinase infusion was used at 50,000 units/h. Balloon dilatation was done with a 6 mm diameter balloon. Portal flow steal by a large shunt was present in 2 cases which were closed by coils and covered stent respectively. **Result(s):** With IR treatment spontaneous portal vein flow was re-established in all but 1 patient [Table 2]. Long term follow up is available in 2 patients (7 and 9 months respectively) and they are doing well and shows excellent portal flow. The patient in whom spontaneous portal flow could not be established (s. no 3) was taken for surgical re-exploration after his liver enzymes increased remarkably next day. The surgical re-exploration revealed HAT in addition to PVT. There were areas of liver necrosis on gross inspection. Hepatic artery flow was re-established after thrombectomy. However only sluggish portal flow could be re-established. This patient expired 2 days later due to multi-organ failure. One patient (s. no. 1) had undergone surgical re-exploration for concomitant HAT and PVT one day before IR treatment. Another patient (s. no. 5) had surgical re-exploration for HAT on POD 1 and had HAT recurrence on POD 6. Hepatic artery thrombolysis was done successfully. However this patient had intracranial bleed on POD 8 likely due to thrombolysis and died of liver insufficiency and progressive neurological deterioration on POD 38. **Conclusion(s):** Evidence-based evaluation outcomes of surgical and IR techniques to manage PVT is made difficult by its low incidence, which has heretofore prevented the publication of prospective comparative trials and limited the publication of large, retrospective series. However, IR therapies promise to avoid the risks of re-do operations in select post-surgical patients, besides providing a fair idea of anatomic causes such as venous redundancy, kinking, stenosis, anastomotic size mismatch and presence of shunts. IR management may be safe in early PVT