

after thrombolysis procedure. We analyzed the incidence of arterial emboli according to the method of thrombolysis and the location of the dialysis graft by Chi-square test. **Results:** Arterial emboli were documented by angiography in 83 cases (3.3%) of patients. Sixty-one cases of embolization involved the brachial artery or its branches, 14 involved the ulnar artery, and 8 involved the radial artery. Two patients complained of finger pain, but it immediately subsided. The numbers and incidence of arterial emboli according to the thrombolysis method are given. Arterial emboli were retrieved by occlusion balloon/fogarty balloon (45), guiding catheter-assisted aspiration (15), observation without intervention (16), sheath assisted aspiration (2), back-bleeding technique (3), and others (2). Subsequent fistulograms obtained in 26 patients and demonstrated arterial stenosis in 2 patients. Follow-up fistulogram demonstrated complete resolution of the observation emboli in three of four patients. **Conclusion:** Arterial emboli are seldom occurrence during percutaneous dialysis graft thrombectomy procedure, and the majority can be easily retrieved by percutaneous techniques. Clinical observation also appears to be indicated in asymptomatic patients.

## P512

### Extent Intravenous Thoracoabdominal Aortic Aneurysms: A Systematic Review

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**Background:** We compare the patency and complication rates of endovascular procedures with the outcome of open surgery for thoracoabdominal aneurism extend intravenous (IV). **Methods:** A systematic search of published studies PubMed reporting treatment of thoracoabdominal aneurism extend IV was performed. **Results:** Extent IV thoracoabdominal aortic aneurysm open repair is considered relatively safer. Improvements in the surgical technique have helped to greatly reduce death and complications at experienced centers. The development of totally endovascular repair with branched graft devices has provided a solution for patients who were previously judged inoperable. **Conclusion:** The possibility to choose between different options of treatment (surgical and/or endovascular) along with the experience of the center surely makes the differences on outcomes.

## P513

### Superiority of Intrasac Ethylene Vinyl Alcohol Copolymer Liquid Embolic (Onyx®) Embolization Compared with Other Embolization Agents and Techniques for the Treatment of Type II Endoleaks Following Endovascular Stent-Graft Treatment of Abdominal Aortic Aneurysms

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**Purpose:** The aim of the study was to review our experience with the efficacy of ethylene vinyl alcohol copolymer liquid embolic (Onyx®) injected directed into the aneurysm sac

compared with other embolic agents and techniques for the treatment of persisting type II endoleaks (after endovascular repair for abdominal aortic aneurysms [EVAR]). **Methods:** All patients treated at our center between April 2005 and July 2015 who underwent an embolization procedure for a persistent type II endoleak after EVAR were retrospectively reviewed. Patients were divided into three groups depending on the embolic agent used and the technique of embolization. Group 1 underwent embolization with Onyx® injected directly into the aneurysm sac, using either a transarterial or a direct sac puncture technique. Group 2 underwent embolization with agents other than Onyx®, including cyanoacrylate, also injected directly into the aneurysm sac. Group 3 included patients treated by any other embolization technique or agent. Successful treatment was defined as resolution of the endoleak on a follow-up computed tomography and <5 mm aneurysm sac expansion. **Results:** Thirty-nine patients underwent 56 embolization procedures. The number of patients and embolization procedures for the three groups was as follows: Group 1: 13 and 14; Group 2: 10 and 11; Group 3: 21 and 31. The availability of postprocedure follow-up for the three groups was as follows: Group 1, 11/14 (79%); Group 2, 11/11 (100%); and Group 3, 26/31 (84%). Procedural success for the three groups was as follows: Group 1, 36%; Group 2, 18%; and Group 3, 23%. The success of Onyx embolization for patients in Group 1 who had only a single endoleak was 4 of 8 (50%). There was one major complication in Group 3 which was lower extremity weakness secondary to spinal infarction following embolization of a lumbar artery supplying the endoleak using polyvinyl alcohol particles. **Conclusion:** The success of embolization for persistent type II endoleaks following endovascular stent grafting for abdominal aortic aneurysms is limited with all embolization agents and techniques. However, Onyx® embolization injected directly into the aneurysm sac had the greatest success, especially if only one endoleak is present.

## P514

### Presurgical Embolization of Nasopharyngeal Angiofibroma: Finding Predominant Arterial Feeder

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**Background:** Juvenile nasopharyngeal angiofibroma (JNA) Nasopharyngeal angiofibroma is a benign fibrovascular tumor affecting young adolescent boys, originating from the posterolateral wall of the nasal cavity. The young patients mostly present with chronic epistaxis, nasal obstruction, rhinorrhea, conductive hearing, and diplopia. The aim of the study is done to find the predominant arterial feeder during presurgical embolization of juvenile nasopharyngeal angiofibroma to reduce blood loss and intraoperative time during surgery. **Methods:** Four-vessel angiography (digital-subtraction angiography) was done in all patients including internal and external carotid angiography with superselective angiography of vessel-supplying tumor. Presurgical embolization of 150 patients done with spongostone in angiography suit of Neuroradiology Department, Lahore General Hospital, Lahore, Pakistan, with age ranging from 12 to 18-year males from January 2012 to June 2016. All patients underwent surgery within 24 h. **Results:** Out of 150 patients, internal

maxillary artery was supplying 111 patients, 30 were supplied by accessory meningeal artery, and 9 were supplied by ascending pharyngeal artery. Presurgical embolization with spongostone proved significant reduction in intraoperative blood loss and reduced surgical resection time. **Conclusion:** Internal maxillary artery proved to be the major feeder supplying JNA. Presurgical embolization appears to be the treatment of choice prominently reducing intraoperative blood loss and minimizing the need of blood transfusion with short intraoperative time, resulting in quick and better surgery.

## P515

### Outcomes of Elective Percutaneous Peripheral Revascularization in Outpatients: 10-Year Single Center Experience

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**Background:** The aging population, along with increased cardiovascular risk factors, has led to an increase in vascular diseases incidence, and subsequently, the need for therapeutic procedures. Today, percutaneous transluminal angioplasty (PTA) and stenting are considered the first-line treatment for a variety of procedures for patients with disabling peripheral arterial disease (PAD). The aim of this study is to evaluate the safety and feasibility of peripheral percutaneous endovascular procedures in a large group of outpatients suffering from PAD. **Methods:** We evaluated all elective patients who underwent peripheral balloon angioplasty (PTA) or stenting for PAD of the lower extremities as “out-patient admission protocol” (OPAP) from January 2005 to December 2015. By protocol, patients were expected to be discharged 4 h after the procedure. Clinical profile, procedure details, and technical success were reviewed. Complications, conversion rate, readmission rate, and long-term follow-up were evaluated. **Results:** Four hundred and forty-nine consecutive patients with a mean age of  $66 \pm 10.1$  years (280 men and 169 women) were evaluated. Four hundred and seventeen patients (93%) suffered from claudication. Femoral access was obtained in 96% (6-French sheath in 87%) of patients. PTA alone was performed in 18% and PTA/stents in 82%. Technical success was 98.6%. Over the 8 observed failures, 4 patients had a second successful procedure. Closure devices were used in 52.4% procedures. All patients received heparin during the procedure and were discharged with dual antiplatelet therapy. Conversion and readmission rates were 2% and 0.6%, respectively. Complication rate was 3.6% (minor and major 2.8% and 0.8%, respectively). No correlation was found between complications and closure device usage. Restenosis rate was 24.5% during the long-term follow-up (mean 44 months). **Conclusion:** As designed, The OPAP was feasible, safe, and effective with very low conversion and complications rates. These results strongly support a larger use of such approaches as routine practice.

## P516

### Stenting Angulated Aortic Aneurysm Neck Before Endovascular Aortic Repair: A Case Report

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**Background:** Increasing number of patients with angulated abdominal aortic aneurysm (AAA) neck are being treated with endovascular aneurysm repair (EVAR). Moreover, more patients with unsuitable or high-risk anatomy defined in the instructions for use for endografts are being referred to centers with high volume. In this case report, we discuss specific problems that can be encountered during preoperative planning in relation to periprocedural stent graft deployment in patients with angulated AAA necks and offer potential solutions for these problems. The aorta can angulate in several directions (dimensions) simultaneously. Two neck angles are evaluated in the preoperative evaluation. Suprarenal neck angulation refers to an angle measured between the long axis of the immediate suprarenal aorta and the infrarenal aorta. The second angle is aortic neck angulation which measured between the long axis of the infrarenal neck and the long axis of the AAA. **Case Report:** An 81-year-old male presented to his general practitioner with chronic lower back pain., and pulsatile abdominal mass, patient referred to vascular clinic and a diagnosis of AAA was made, risk factors include diabetes, hypertension and dyslipidemia, CT scan was done which showed 65 mm AAA infrarenal by 15 mm with a severely angled aortic neck. The alpha angle was 89° and the Beta angle was 90°. We planned to deploy self expandable nitinol aortic stent E-XL at the angled neck before the Device to remodel the proximal aorta and then to deploy the device from bilateral femoral cutdowns. We have found that both angles have decreased by 15%, patient was discharged 3 days later with no endoleak. **Conclusion:** The use of self-expandable E-XL stent in severely angulated necks before EVAR may offer an advantage in lowering the aortic angle to around 15% less and decrease the secondary interventions in these cases.

## P517

### Endovascular Management of a Pulmonary Artery Aneurysm

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**Background:** Pulmonary artery aneurysms are a rare. They constitute <1% of thoracic aneurysms with a prevalence of 1 in 14,000 individuals. Studies have shown associations with pulmonary hypertension and infection. Given its rarity, management of such cases is still controversial. Our aim is to present a minimally invasive technique using endovascular coiling. **Case Report:** We report a case of a 38-year-old female with a known history of chronic pulmonary embolism and bilateral pulmonary artery aneurysms. She presented with massive hemoptysis. Computed tomography (CT) angiography