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.

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Extent Intravenous Thoracoabdominal Aortic Aneurysms: A Systematic Review

Benazi Ahmed, Bouayed Mohamed Nadjib

EHU, Oran, Algeria.

E-mail: abenazi@gmail.com

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.

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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

Hatim Alobaidi, Stewart Kribs¹

Prince Sultan Military Medical city, Riyadh, Saudi Arabia,

¹London Health Science Centre, Ontario, Canada.

E-mail: dr.hatim@live.com

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.

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Presurgical Embolization of Nasopharyngeal Angiofibroma: Finding Predominant Arterial Feeder

Shahzad Karim Bhatti, Umair Rashid

Lahore General Hospital, Lahore, Pakistan.

E-mail: shahzadkbhatti@gmail.com

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