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Mechanical Thromboaspiration of Acute Thrombosis of Dialysis Arteriovenous Fistulae and Grafts using the Penumbra Indigo System: Preliminary Results from a Single Center Experience

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Background: Thrombosis of vascular accesses is most often due to venous anastomotic outflow stenosis or obstruction. Many percutaneous mechanical devices have been developed to eliminate the clot. Their clinical success rates are usually between 71% and 100%, with low incidence of serious complications. The indigo mechanical thrombectomy system (Penumbra, inc) consists of vacuum-assisted thrombectomy, which enables continuous thrombus aspiration. Preliminary results with this device in treatment of thrombosed vascular access have been recently reported in literature. We want to report the preliminary results of our early experience with Indigo System CAT8, and the new cat d, in the treatment of acute thrombosed av f and avg. **Method(s):** Between November 2017 and July 2018, 5 patients with acutely thrombosed dialysis fistulae were treated. All procedures were performed within 48 hours of the occurrence of thrombosis. Patients (average age, 71 y; age range, 57–86 y; 3 men and 2 women) were treated with the indigo system. **Result(s):** Technical success was 80% (4 of 5 patients). Clinical success was 80% (4 of 5 patients); 1 patient had a thrombosed dialysis fistula 24 hours after declotting. No technical or device-related complications were reported. Adjunctive procedures included PTA (60%) and stent graft deployment (40%; 2 of 5 patients). Mean FU was 163 days (range 59–301). Primary patency at one-month was 80%. One patient had a second aspiration for recurrent thrombosis of the fistula at 37 days from the first procedure, leading to a 3-month primary patency of 60% and a secondary patency of 80%. **Conclusion(s):** Our preliminary experience confirms the safety and the efficacy of mechanical thrombo-aspiration with indigo system in the treatment of thrombosed dialysis AVF and/or AVG. Our results in terms of clinical success and patency at 3-month are in line with what reported by vascular guidelines.

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Feasibility, Safety, and Effectiveness of Endovascular Stent-graft Placement for Emergency Repair of Acute Descending Thoracic and Abdominal Aorta

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Background: The traditional treatment for most patients with diseases of the descending thoracic aorta and abdominal aorta were surgical intervention with graft interposition. Now the trend is shifting towards the minimally invasive procedures especially towards the endovascular procedures. Several clinical studies have shown high success rates of emergency repair of acute thoracic and abdominal aortic disease by endovascular stent grafting. Compared with elective endovascular repair of thoracic aortic lesions, emergency stent-grafting is more demanding in several respects. Because many emergency procedures must be performed outside regular hospital hours, a team of radiologists, vascular surgeons, anesthesiologists, operating room nurses, and radiographers who can quickly set up the imaging, surgical, and interventional equipment should be on call around the clock. **Method(s):** We analyzed departmental database of endovascular stent graft patients from 2016 to 2018 in the department of Cardiovascular Radiology and endovascular intervention, All India Institute of Medical Sciences, New Delhi, India. We found total of 37 cases of endovascular stent graft deployment, out of which 32 were male and 5 were female. Out of these 37 cases, 10 were traumatic pseudoaneurysms, 2 were infective in etiology (one was of thoraco-lumbar tubercular spondylitis with pre and para vertebral abdominal and lower DTA pseudoaneurysm and another was upper DTA infective pseudoaneurysm). Eleven stent grafts were deployed in the emergency, out of which 10 were for traumatic pseudoaneurysms and 1 was for symptomatic infra renal abdominal aortic aneurysm. One case had a previous stent graft placement done for type B aortic dissection which now presented with DTA aneurysm and dissection at distal end of prior stent graft. In another postsurgical case, type B aortic dissection occurred following ascending aortic repair with arch vessel repair surgically. In total 27 patients had presented with back pain on presentation which was relieved after stent graft placement. Eleven patients were of type B aortic dissection. **Result(s):** Primary technical success rate (good entry sealing, absence of type I leak) was seen in 36/37 (97.29%) patients. In-hospital mortality was 0%. None of the patients had any spinal cord injury or paraplegia. At 6 months followup, none of the patient needed reintervention and clinical success was achieved in all but one patient who continued to have mild back pain. During follow-up, none of the patients died due to stentgraft-related complications. **Conclusion(s):** Emergency repair of acute descending thoracic aortic disease and abdominal aortic disease with stent-graft placement offers a promising alternative to open-chest surgery, especially in patients who are hemodynamically unstable and at high surgical risk.

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Safety and Efficacy of Covered Endovascular Reconstruction of the Aortic Bifurcation Technique for Complex Aortoiliac Occlusive Disease: A Single Center Experience

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