

angiosome revascularization) of 16 patients in 5 (31.25%) repeated interventions were performed. Of these, 4 (25%) eventually had a high amputation and 1 (20%) had healing of trophic disorders. In Group III (nonangiosomal revascularization), out of 3 patients, in 1 (33%) twice there were repeated interventions, finally high amputation was performed, in 1 (33%)-healing of trophic disorders within 2 months, in 1 (33%)-trophic disorders did not heal (after 2 months after surgery the death for other reasons). **Conclusion:** The angiosomal concept does not provide an exact answer regarding the role of each of the main arteries in the blood supply to the shin and limb. If it is impossible to follow to the angiosomal principle, we should try to restore blood flow to any trunk artery.

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Saudi Women's Awareness of Uterine Artery Embolization as a Treatment Option for Fibroids

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Objectives: In the current study, Saudi women's knowledge of uterine artery embolization (UAE) as a treatment option for fibroids was investigated. **Methods:** In this cross-sectional study conducted in 2019, an anonymous online questionnaire was sent to women living in Hail and Riyadh via social media. The questionnaire contained 11 multiple-choice questions and was divided into two parts. The first part contained questions about demographic characteristics and one question about whether or not the respondent had a history of fibroids. The second part contained items pertaining to awareness about treatment options for fibroids and whether the respondent had heard of UAE or not. The data were analyzed using SPSS version 22 software. **Results:** Of 845 questionnaires received back, 9.2% were from respondents who reported having a history of fibroids. Overall, 76.1% of the respondents had never heard of UAE. Awareness of treatment options for fibroids was significantly associated with level of education and involvement in a medical field ($P < 0.05$, Chi-square test). Of the respondents who had a history of fibroids, 71.7% had never heard of UAE and 8.9% had heard about it from an obstetrician or gynecologist. Only 6.4% were aware of all the treatment options for fibroids, and 28.2% thought that hysterectomy was the only treatment option. **Conclusion:** The current study highlights the need for a public awareness program about the treatment options for fibroids and greater effort on the part of treating doctors to offer UAE to appropriate candidates.

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Percutaneous Management of the Thrombosed Dialysis Access Using Arrow-Trerotola Thrombectomy Device: A Single-Center Experience

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Objectives: To access thrombosis that frequently occurs in patients with end-stage renal disease (ESRD) on hemodialysis, which requires declotting by various techniques and devices. We review the performance of Arrow-Trerotola™ percutaneous thrombolytic device (PTD) for declotting arteriovenous fistulas and grafts (AVFs and AVGs) at King Faisal Specialist Hospital and Research Center, Jeddah, Saudi Arabia. **Methods:** We retrospectively evaluated a total of 38 patients – 19 males (50%) and 19 females (50%) with a median age of 63 years. Twenty-six patients (68%) had an AVF, while 12 patients had an AVG (32%) (18% radiocephalic, 63% brachiocephalic, 16% brachioaxillary, 2% femoral). All patients were treated with mechanical thrombectomy using Arrow-Trerotola device. Technical and clinical success rates as well as primary, primary-assisted, and secondary patency rates were assessed at 3, 6, and 12 months. **Results:** In our group with a thrombosed AVF or AVG, all were treated using the Arrow-Trerotola device and adjunctive administration of 6 mg of alteplase. Balloon angioplasty and/or stenting were done for the associated stenosis. Our technical success rate was 89%, while the clinical success rate was 79%. The primary patency over 3, 6, and 12 months was 74%, 63%, and 42%, respectively. While the primary-assisted patency was 84%, 79%, and 71%, the secondary patency rates were 84%, 79%, and 74%, respectively. **Conclusion:** Our experience supports the international published data of the efficacy and safety of Arrow-Trerotola thrombolytic device in the management of thrombosed hemodialysis accesses.

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Emergency Endovascular Exclusion of False Lumen Rupture after Frozen Elephant Trunk Procedure in Type A Aortic Dissection: A Case Report

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Objectives: Thoracoabdominal aortic false lumen rupture is a challenging and catastrophic problem after aortic arch surgery with 100% mortality if untreated and high mortality with open surgery. The objectives were to describe endovascular emergency approaches for occlusion of false lumen rupture after hybrid arch replacement. **Methods:** First Case: An 82-year-old female patient underwent repair for type A aortic dissection (TAAD) with E-VITA open plus hybrid stent graft™ (JOTEC GmbH, Hechingen, Germany), followed with TEVAR, distal landing zone 5 cm above the celiac trunk with persistent retrograde reperfusion of the false lumen. She presented 4 months later with sudden onset of chest and hypotensive requiring resuscitation. Computed tomography angiography (CTA) revealed a complicated false lumen rupture with left-sided hemothorax and aortic true lumen compression. We performed an endovascular bottle neck occlusion with implantation of four Amplatzer-Occluder Vascular Plugs II (AGA)™ and TEVAR distalization of the true lumen directly above the level of the celiac trunk. Second Case: A 58-year-old male patient underwent aorta ascendens replacement in 2004 in TAAD followed by redo

bypass surgery in 2013 and frozen elephant trunk E-VITA™ hybrid grafting in 2019. On the 3rd postoperative day, CTA showed a false lumen rupture and a true lumen collapse. As emergent case the patient underwent an extended true lumen TEVAR to the celiac trunk. Inflow occlusion into the false lumen was achieved with Candy Plug implantation (Bolton/Vascutek CMD 44 mm × 100 mm × 44 mm) and Amplatzer-Occluder Vascular Plugs II (AGA)™ (22 mm × 18 mm), 1 cm proximal to the celiac trunk. **Results:** The procedure times were 168 and 235 min, respectively. The mean fluoroscopy times were 24/46 min, respectively. The amounts of contrast dye used were 250 and 276 ml, respectively. The technical success rate was 100% and no intraprocedural complications occurred. Both patients showed complete thrombosis of the treated ruptured false lumen in the postoperative CTA. The postoperative course was uneventful without stroke, paraplegia, myocardial infarction, or renal failure. After a follow-up of 3 months, both patients are alive and well. **Conclusion:** Emergency endovascular false lumen occlusion is an important technique in the armamentarium of specialized centers for aortic endovascular therapy to control bleeding and initiate false lumen thrombosis in the management of ruptured aortic dissection. Further cases (multicenter study) and follow-up are needed to consolidate these early results.

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Management of Hepatic Encephalopathy Associated with Porto-Systemic Shunts: Hemodynamic Changes by Interventional Radiology Procedures

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Objectives: To describe various techniques for reduction/occlusion of the blood flow in gastro-renal/leino renal shunts for controlling the arterial ammonia level causing hepatic encephalopathy and suggesting the best technique according to individual patient needs. **Methods:** In 11 patients, different technique of blood flow reduction in the shunt was used according to the size, shape, position, and origin of the shunt. Of 11 patients, eight underwent for shunt obliteration, two underwent for splenic artery embolization, and one underwent for leino renal shunt reduction. For leino renal shunt reduction, a stent (preformed hour-glass shape) was deployed in shunt and multiple coils of varying sizes were deployed in the space between stent and shunt wall. For obliteration of shunts, catheter was positioned deep inside the varix, and after inflating, the balloon sclerosing agent in the form of foam was infused with the goal of filling the full extent of varices. For reduction of flow in shunt, polyvinyl alcohol particles were infused in lower pole branches of spleen. It causes decrease blood in the splenic vein. **Results:** 7/8 shunt obliteration, 1/1 shunt reduction, and 2/2 partial splenic artery embolization showed significant reduction in arterial ammonia level. **Conclusion:** Ammonia level can be controlled by controlling blood flow through the shunts. Various interventional methods are available and have to select according to the size, shape, and position of shunt.

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Unusual Hematologic Indication of Splenic Artery Embolization: Clinical Indications and Technical Tips

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Educational Poster Background: The uncommon hematological indications include paroxysmal nocturnal hemoglobinuria, myelofibrosis, myelodysplasia syndrome, leukemia, and chemotherapy-induced splenomegaly. **Preprocedural**

Preparation: Initially, a patient should be vaccinated against encapsulated organism 2 weeks before embolization, and preprocedural antibiotic should be given 1 h before the procedure.

Procedural Details: Partial or distal splenic artery embolization started by celiac angiogram to define the vascular anatomy and give specific attention to the origin of the splenic artery and intrasplenic segmental branches. Then, a microcatheter advanced distally to splenic hilum targeting the inferior branches. The aim of embolization is to embolize at least one-third of the spleen and maximum of half of it. A Polyvinyl Alcohol 300–500 μ is a favorable embolic material to be used. **Postprocedural Care:** Prophylaxis AB and NSAID are used routinely for 1 week. Partial splenic artery embolization is a safe and short time procedure that aiming to increase platelet count.

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Slow-Flow Vascular Malformations of Extremities: Case Series

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Educational Poster Background: Venous malformations (VMs) are a type of vascular malformation that results from veins that have developed abnormally, which stretch or enlarge over time. VMs can be extremely painful and sensitive. Sclerotherapy has evolved as the best treatment option for VMs with good prognosis. Low-flow vascular malformations, especially VMs and macrocystic lymphatic malformations, are effectively treated by percutaneous intralesional injection of sclerosant drugs, such as ethanol, and detergent sclerosant drugs. Good-to-excellent results are possible in 75%–90% of patients who undergo serial sclerotherapy. Most adverse effects are manageable, but severe complications can result from the intravascular administration of ethanol. It is generally recommended that the treatment of vascular malformations be performed in a multidisciplinary setting by practitioners with appropriate training and support.

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Strategies for the Endovascular Management of Visceral Artery Aneurysm and Pseudoaneurysm

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