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Traumatic Aortic Injury: Clinical Results of Endovascular Repair, 5-Year Experiences in a Single Regional Trauma Center

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Objectives: Traumatic aortic injury (TAI) is rare but is highly fatal. In determining how to treat TAI, there are many factors to consider, due to the complexity of concomitant traumatic injuries. The European Society of Cardiology recommends that thoracic endovascular aortic repair (TEVAR) should be preferred to open surgical repair in cases of TAI with suitable anatomy. We evaluated the clinical efficacy and safety of TEVAR for the treatment of TAI in a regional trauma center. **Methods:** A retrospective electronic medical record review of all patients undergoing TEVAR for TAI between November 2014 and September 2019 at a Korean Regional Trauma Care Center was performed. Reviewed results included patient demographics, initial and follow-up computed tomographic scan results, angiographic findings, TAI type and sites, time from injury to repair, injury severity score, and clinical outcomes including survival duration and procedure-related complications. **Results:** Twenty-three trauma patients from a single trauma care center underwent TEVAR. The mean age was 54 years and 18 patients were male. The proximal landing zone involved was aortic arch zone 2 in 43.4% and zones 3 and 4 in 56.6% of procedures. Technical success was achieved in all cases. No patient developed procedure-related paraplegia or required conversion to open surgery. Follow-up imaging demonstrated complete exclusion of the traumatic tear and regression of the false aneurysms without endoleak or stent-graft-induced new entry or symptom of steal syndrome during follow-up duration 332.0 ± 285.0 (15–03 days). Thirty-day mortality was 8.7% (n = 2). **Conclusion:** TEVAR is a reliable, safe, convenient with less complications for TAI, especially given the consideration in cases with suitable aortic anatomy and appropriate hemodynamic status.

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Advantages of Vascular Plugs in Embolization of High-Flow Vascular Lesion

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Objectives: To study the applications of vascular plugs in embolization of high-flow vascular lesions. **Methods:** Imaging-proven cases of high-flow vascular malformation were selected after written and informed consent. All patients were treated successfully with vascular plug after angiographic evaluation. **Results:** Ten embolizations were performed of which 7 (70%) were elective and 3 (30%) were done on emergency basis. Of these seven cases, three cases (42%) needed vascular plug and augmented with other embolic agents that include coils in 1 case (16.6%) and sterol in 2 cases (33.3%). Of the emergency 3 cases, 2 (66.6%) needed plug with and adjunct embolic agent like gel foam in one case and coil in other. **Conclusion:** Successful embolization was performed in all cases. This includes pulmonary arteriovenous malformation, dialysis fistula closure, Abernethy syndrome, and portal hypertension. The vascular plug is a very useful embolization agent that allows the operator to treat a variety of high-flow conditions including very challenging vascular lesions, such as high-flows arteriovenous fistula and vessels with short-landing zones. There is good control on the device with minimal risk of distal embolization or migration. Becoming familiar with the different versions of the device within the Amplatzer vascular plugs family and the utility of combining the AVP with other embolization therapies is very important.

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The Role of Ablative Techniques in Treatment of Lung Metastasis: Our Interventional Radiology Experience

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Objectives: To evaluate retrospectively efficacy and safety of two percutaneous thermal ablation techniques, radiofrequency ablation (RFA) and microwave ablation (MWA), in unresectable lung malignancies, focusing on local tumor progression and survival outcomes. **Methods:** Data regarding patients with lung metastasis and factors precluding resection who underwent RFA or MWA from July 2008 to December 2019 were reviewed retrospectively. The follow-up computed tomographic scans were performed immediately after procedure and at 1, 3, 6, and 12 months. The primary study objectives such as technical success, primary and secondary technique efficacy rates, local tumor progression (LTP) rate, LPT-free survival (LTPFS), cancer-specific survival (CSS), and overall survival (OS) were assessed. The secondary study objectives included assessment of side effects and complication rate. Predictive factors of LTPFS and OS were analyzed using Mann–Whitney U-test. **Results:** A total of 118 patients, with an average age of 73 years, underwent 74 RFA (46%) and 85 MWA (53%) for a total of 159 ablations. The histological survey revealed a prevalence of colon and rectum cancer origin, with an average diameter of 17 mm (5–76 mm). Technical success rate was 157/159 (98.7%). Primary and secondary technique efficacy rates were 151/159 (95%) and 150/159 (94%), respectively. During the entire study follow-up, 26 cases experienced disease progression (16%) of which 15 underwent repeat ablation (9%). Residual unablated tumor happened in eight cases (5%), while LTP occurred in 18 cases (11%) after 2–37 months after initial treatment. One-, 3-, and 5-year LTPFS was, respectively, 91%, 89%, and 89%. One-, 3-, and 5-year OS and CSS were 94%, 89%, and 86% and 99%, 98%, and 96%, respectively. Minor and major complications' rate was 51/159 (39%) and 23/159 (14%), respectively. In bivariate analysis, the only factors associated with higher recurrence rate and then with poorer LTPFS were lesion dimensions (P = 0.031) and the technique (P = 0.003), with a higher recurrence percentage in MWA. The technique influenced