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VESS3.

Type II Endoleak With or Without Intervention After Endovascular Aortic Aneurysm Repair (EVAR) Does Not Change Long-Term Outcomes Despite Aneurysm Sac Growth

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Objectives: There is considerable controversy regarding the significance and appropriate treatment of type II endoleaks (T2L) after EVAR. We report our long-term experience with T2L management in a large multicenter registry.

Methods: Between 2000 and 2010, 1736 patients underwent EVAR. The incidence of T2L was observed. Primary outcomes were mortality and aneurysm-related mortality (ARM). Secondary outcomes were change in aneurysm sac size and reintervention.

Results: During the median follow-up of 32.2 months (interquartile range, 14.2-52.8 months), there were 474 T2L (27.3%). There were no late abdominal aortic aneurysm ruptures attributable to a T2L. Patients with T2L had no difference in overall mortality ($P = .47$) or ARM ($P = .26$) compared with those without T2L. A median sac growth of 5 mm (interquartile range, 2-10 mm) was seen in 46.1% of patients with T2L. Of these, 11.0% had an additional type of endoleak. Reintervention occurred in 111 (23.4%) of all patients with T2L, of which 74% were performed in patients with sac growth, and was technically successful in 31.5% of cases. Thirty-nine patients (35.1%) underwent lumbar embolization, 31 (27.9%) had adjunctive stents placed, 7 (6.3%) had open surgical revision, and 3 (2.7%) had direct sac injection. Thirty-one patients (27.9%) had multiple interventions. After excluding patients with other types of endoleak, patients with T2L-associated sac growth had no difference in overall mortality ($P = .57$) or ARM ($P = .09$), with or without reintervention.

Conclusions: In our multicenter EVAR registry, overall mortality and ARM were unaffected by the presence of a T2L. Moreover, patients who were simply observed for T2L-associated sac growth had similar outcomes as those who underwent reintervention for the same, suggesting that concomitant other endoleak types may be the primary driver of mortality. Our future work will investigate the most cost-effective ways to select patients for intervention besides sac growth alone.

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VESS4.

The Implications of False Lumen Embolization During TEVAR and EVAR on Thrombosis, Pressurization, Remodeling, and Mortality

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Objectives: To evaluate the implications of thoracic and abdominal aortic false lumen embolization (FLE) during thoracic endovascular aortic repair (TEVAR) and endovascular aneurysm repair (EVAR) for complicated aortic dissections.

Methods: Ninety-six consecutive patients who presented with complicated acute and chronic type B thoracic aortic dissections (TAD) who underwent TEVAR with FLE (n = 32 [33.3%]) and without FLE (n = 52 [54.2%]), as well as abdominal aortic dissections (AAD) who underwent EVAR with FLE (n = 4 [4.2%]) and without FLE (n = 8 [8.3%]). In a subset of 26 patients, before FLE, a wireless cardioMEMS Endosure pressure sensor was placed in the false lumen and used to quantify the false lumen to systemic systolic, diastolic, mean, pulse pressure indices. All data were prospectively collected and outcomes analyzed.

Results: The 30-day mortality in patients with FLE (n = 1 [2.3%]) was significantly lower than patients without FLE (n = 5 [9.6%]), and none of the patients with FLE developed spinal cord ischemia. After TEVAR and FLE, nine patients (29.0%) had persistent retrograde false lumen endoleaks that required repeat embolization procedures. FLE and complete thrombosis was achieved in 100% of EVAR patients. At a mean 18-month follow-up, 88% (23 of 26 patients) had a significant decrease in all false lumen-to-systemic pressure indices, and 65% (17 of 26 patients) had a false lumen remodeling with >5 mm maximum diameter reduction. At midterm follow-up, there are no thoracic or abdominal related ruptures, conversions, or deaths.

Conclusions: FLE during TEVAR for complicated acute and chronic TAD and AAD is associated with a lower mortality and is effective in reducing false lumen pressures and maximum diameter. This adjunctive technique should be considered when managing complicated aortic dissections.

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VESS5.

The Society for Vascular Surgery Lower Extremity Threatened Limb Classification System Based on Wound, Ischemia, and Foot Infection (WIfI) Correlates With Risk of Major Amputation and Time to Wound Healing

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