



Trends in Outcomes from Endovascular Aortic Repair over Two Decades



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Background

- Endovascular therapy for aortic pathology has changed over the past two decades with newer stent technologies.

Objectives

- We aim to evaluate outcomes over the two decades following endovascular repair.
- Subgroup analysis was performed by sex, symptom status and graft size

Methods

- Patients undergoing endovascular aortic repair (EVAR) were identified at an academic institution between 2003 and 2022.
- Descriptive statistics were used to analyze outcomes.

Results

- 500 patients were included for analysis – 21% women, 79% men
- Outcomes (entire cohort)
- 30-day mortality was 5% and Major Adverse Cardiac Events 3.2%
- Mortality during follow-up was 20.2%

a. Outcomes by sex

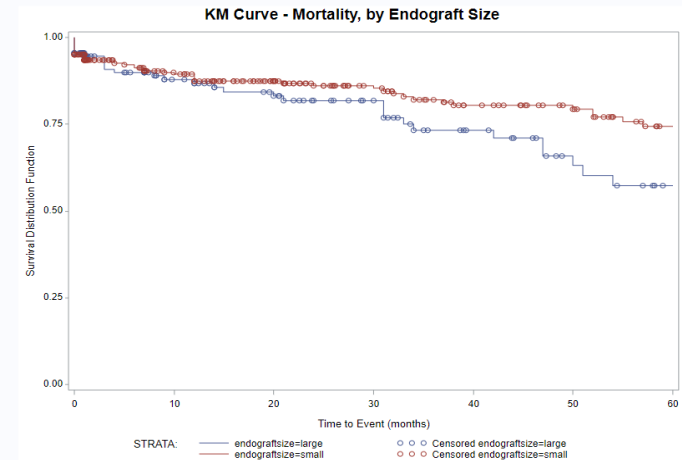
- More women underwent EVAR for aortic thrombus (9.7 vs. 3.8%), AIOD (5.8 vs. 1.3%) and PAU/IMH (3.9 vs 1.3%) – $p = .004$
- 30-day mortality (10.7 vs. 3.5%; $p = .003$) and acute limb ischemia (3.9 vs. 0.8%; $p = .04$) worse for women

b. Outcomes by symptoms (168 patients – 33%)

- 30-day mortality (9.5 vs. 2.7%; $p = .001$), pulmonary failure (5.9 vs. 1.2%; $p = .007$) and acute limb ischemia (3.6 vs. 0.3%; $p = .007$) worse for symptomatic patients

c. Outcomes by graft size

- 30-day MACE (6.9 vs. 1.9%; $p = .007$), renal failure (4.8 vs. 0.9%; $p = .01$) and open reinterventions (2 vs. 0%; $p = .03$) worse for larger grafts (>28 mm diameter)
- Survival at 60 months was lower for larger grafts ($p = .02$)



Conclusions

- EVAR is durable and associated with excellent outcomes, across two decades of device use.
- Sex differences in indication and outcome are apparent
- Large graft size, indicating a larger aneurysm neck, is associated with poor postoperative outcome, higher need for open reintervention and reduced survival at 60 months