

A Comparison of Open and Endovascular Aneurysm Repair with Best Medical Treatment: Has the Availability of EVAR Expanded Our Indications for Intervention and Improved Survival?

NOTES

*Niamh Hynes, MD, Galway, Ireland; B. Mahendran; S. Tawfik; Y. ElHediny;
D. Courtney; I. Davidson; S. Sultan*

Purpose

Our aim is to investigate whether endovascular aneurysm repair (EVAR) prolongs life expectancy in high-risk patients with abdominal aortic aneurysm (AAA).

Methods

From 2002 to 2005, 780 patients with AAA were referred; 114 patients were deemed high risk according to ASA classification and were prospectively assigned to open repair (OR; n = 33), EVAR (n = 36), or best medical treatment (BMT; n = 45). Adjustments were made for case severity mix and patients stratified using SVS/AAVS comorbidity and anatomic factor severity scores. All patients had computed tomographic angiography. Groups were matched for aneurysmal site, size, clinicopathology and gender.

BMT patients were significantly older than those in the other two groups ($p < .01$), but there was no difference in comorbidity severity scores between groups ($p > .05$). Comparing EVAR with OR, there was no significant difference in primary technical and clinical success rates ($p > .05$), but length of hospital stay and 30-day morbidity were significantly reduced in EVAR ($p = .0004$ and $p < .01$).

Three-year cumulative survival rates were 84% (SE 6.06%) for EVAR, 84% (SE 7.47%) for OR, and 68% (SE 7.4%) for BMT. Compared with BMT, the relative risk ratio for all-cause mortality was 0.527 (95% CI 0.218 to 1.323) for EVAR and 0.54 (95% CI 0.322 to 1.38) for OR. One aneurysm-related death occurred in OR and none in EVAR. There were 5 (11%) incidences of rupture in the BMT group in the first year, and two the following year.

EVAR is an alternative to patients at high risk for open repair, with a significant reduction in morbidity risk compared with BMT. At 1 year, no statistically significant survival benefit was seen between the three groups. However, survival curves continue to diverge at 3 years.