EVAR for Symptomatic Non-Ruptured AAA: Challenging Conventional Wisdom with 5-year Outcomes in High-risk Patients

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Objective:

To investigate the early and long-term outcomes of endovascular aneurysm repair (EVAR) versus open repair surgery (ORS) in patients with symptomatic, non-ruptured abdominal aortic aneurysm (AAA), referred to as impending ruptured AAA.

Methods:

We conducted a retrospective review of patients treated between January 2010 and December 2020 at Siriraj hospital, with a 5-year follow-up. A total of 140 patients with symptomatic non-ruptured AAA were included; 29 underwent ORS, and 111 underwent EVAR. Patients with infective native AAAs were excluded. The primary outcome was perioperative mortality, while secondary outcomes included operative details, complications, ICU/hospital stays, re-intervention, and 5-year survival. Continuous variables were analyzed using Student's t-test or Mann-Whitney U test. Categorical variables were analyzed using Pearson's Chi-square test or Fischer's exact test. Kaplan-Meier survival analysis was used for long-term outcomes.

Results:

The EVAR group included more unfit patients (62.2% vs 6.9%, P<0.001). Perioperative mortality was similar between EVAR and ORS (1.8% vs 3.4%, P=0.504). EVAR demonstrated advantages in operative time (median 150 vs 265 min, P<0.001), blood loss (median 200 vs 1800 mL, P<0.001), and hospital stays (median 7 vs 11 days, P<0.001). Respiratory failure was lower in the EVAR group (2.7% vs 13.8%, P=0.034). Five-year overall survival (EVAR 41.5% vs ORS 59.7%, P=0.080) and re-intervention-free survival (EVAR 73.5% vs ORS 83.8%, P=0.355) showed no significant differences.

Conclusion:

Despite including more high-risk patients, EVAR demonstrated similar perioperative mortality and long-term outcomes to ORS for symptomatic non-ruptured AAA, with advantages in short-term recovery. These findings suggest that EVAR may be a viable alternative to ORS, particularly for higher-risk patients with symptomatic, non-ruptured AAA.