

 AORTIC DISEASES

Following up on endovascular aneurysm repair

Abdominal aortic aneurysm (AAA) is a very common cause of sudden death if left untreated. AAA is a swelling or gradual dilatation of the main artery of the body, the aorta, which can rupture once it becomes too swollen. This outcome can be prevented by introducing a synthetic aortic graft, with two major strategies commonly used: endovascular aneurysm repair (EVAR) and open surgical repair. The results of the long-term follow-up of the EVAR trial 1 to compare these two methods of AAA treatment are now published in *The Lancet* by Patel and colleagues.

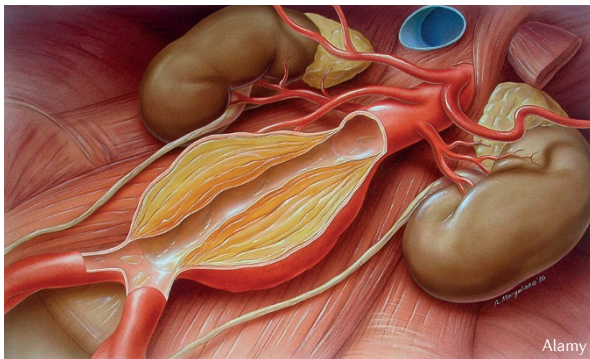
In this trial, 1,252 patients were randomly assigned to one of the two treatment groups and were followed up over a mean of 12.7 years. Compared with those who underwent open surgery, patients who received EVAR had significantly reduced all-cause mortality (HR 0.61, 95% CI 0.37–1.02, $P=0.06$) as well as decreased risk of aneurysm-related death (HR 0.47, 95% CI 0.23–0.93, $P=0.031$) within the first 6 months after therapy, thereby confirming results of previous studies reporting the early benefit of EVAR.

“The striking and shocking findings came beyond 8 years of follow-up,” notes Roger Greenhalgh, lead investigator of the study. After this time, mortality was higher in patients who received EVAR than in those who underwent open surgery, with secondary sac rupture being the leading cause of death (HR 1.25, 95% CI 1.00–1.56, $P=0.048$ for all-cause mortality; HR 5.82, 95% CI 1.64–20.65, $P=0.0064$ for aneurysm-related mortality). Furthermore, patients who received

EVAR had a significantly higher incidence of re-interventions throughout the follow-up period (26% versus 12% in the open-repair group; $P<0.0001$). The researchers also noted a higher incidence of cancer with EVAR than with open repair beyond 8 years of follow-up, which requires further investigation.

This study reveals that EVAR is beneficial for early survival, but requires long-term surveillance to prevent complications and disease recurrence. “There should be a commitment for annual follow-up after EVAR,” says Greenhalgh. The long-term findings from the EVAR trial 1 will be invaluable in encouraging regular annual follow-up and, ideally, new procedures for effective management and surveillance of patients with AAA.

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ORIGINAL ARTICLE Patel, R. et al. Endovascular versus open repair of abdominal aortic aneurysm in 15-years' follow-up of the UK endovascular aneurysm repair trial 1 (EVAR trial 1): a randomised controlled trial. *Lancet* [http://dx.doi.org/10.1016/S0140-6736\(16\)31135-7](http://dx.doi.org/10.1016/S0140-6736(16)31135-7) (2016)