

AORTIC DISEASE ENDOVASCULAR VS OPEN AAA REPAIR

Endovascular repair of abdominal aortic aneurysms (AAAs) is generally associated with lower perioperative mortality than repair by open surgery and, accordingly, the use of endovascular procedures for AAA repair is increasing. However, a new paper published in *The New England Journal of Medicine* suggests that the short-term survival benefit associated with endovascular repair decreases over time, and that this approach is associated with a higher rate of late rupture than open repair.

To investigate the long-term outcomes with endovascular versus open repair, Schermerhorn and colleagues identified 39,966 matched pairs of Medicare patients who had undergone AAA repair with one of the two approaches. Perioperative mortality was 1.6% with endovascular repair versus 5.2% with open repair (relative risk 3.22, 95% CI 2.95–3.51, $P<0.001$). This early survival benefit persisted for approximately 3 years, after which the survival rates were similar with the two techniques. Over 8 years of follow-up, aneurysm rupture occurred in 5.4% of patients who received endovascular repair versus 1.4% of those who underwent open repair ($P<0.001$). Both major and minor reinterventions relating to aneurysms were more common in the endovascular than in the open repair group (18.8% versus 3.7%; $P<0.001$). Reinterventions associated with laparotomy complications were more common with open than with endovascular repair (17.7% versus 8.2%; $P<0.001$). Over time, perioperative mortality decreased with both procedures.

Marc Schermerhorn, lead author on the report, believes that the high incidence of late rupture with endovascular repair is an opportunity for improvement. “We should be able to predict who will be at risk of rupture and either follow them up more carefully, reintervene when needed, or perhaps choose open surgery up front in those who will be at greatest risk.” Although it was not directly assessed in this study, Schermerhorn believes that “patients with suboptimal anatomy for endovascular treatment are those who are at increased risk of late rupture and would be better served with open surgery”. He also suspects that “some patients are not coming back for routine follow-up to detect changes that could be treated to prevent rupture. These are areas for future research.”

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Original article Schermerhorn, M. L. et al. Long-term outcomes of abdominal aortic aneurysm in the Medicare population. *N. Engl. J. Med.* 373, 328–338 (2015)