

6. Endovascular aneurysm repair

Introduction

The standard treatment for aortic aneurysm, open repair, involves a large abdominal incision and cross-clamping of the aorta. In recent years, a minimally invasive technique, endovascular aneurysm repair (EVAR) has been developed: a graft is placed in the aorta via the femoral arteries, without an abdominal incision and with much smaller changes in cardiovascular haemodynamics. Potential advantages over open repair include reduced morbidity and mortality, the possibility of operating on patients unfit for open surgery, and reduced length of hospital stay.

This new procedure is the subject of ongoing trials to determine whether or not EVAR has advantages over conventional surgery and in what circumstances. NCEPOD felt it was important to include EVAR in this study of the management of aortic aneurysm repair. Unfortunately data were received on only 53 endovascular repairs so the conclusions that can be drawn are limited and no recommendations have been made. The results of two major trials of EVAR in the UK have now been published. EVAR 1 randomised suitable patients between endovascular and conventional repair. The 30 day operative mortality after an endovascular approach was reduced by two thirds compared to open surgery¹. However, after a median follow up of 3.3 years it was clear that patients who underwent an endovascular repair were much more likely to need further intervention and all cause mortality did not differ significantly between the two groups².

The EVAR trial 2 randomised patients between endovascular repair and observation. All patients were considered 'unfit' and at high risk of mortality with a conventional aneurysm repair. The 30 day mortality after endovascular repair was 9% compared to 1.7% in the EVAR 1 trial. Analysed by intention to treat there was no reduction in mortality compared to the control group after a median follow up of 2.4 years³. At present, the cost of endovascular repair is greater than that of open repair and the long term outcomes remain uncertain.