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## **Persistent chronic peri-aortitis ('inflammatory aneurysm') after abdominal aortic aneurysm repair: systematic review of the literature**

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### **CRD summary**

This review concluded that open surgery was superior to endovascular aneurysm repair in achieving regression of chronic periaortitis, but frequency of persistent periaortic fibrosis and/or ureteral obstruction was not negligible. Uncertainty over review methods, potential for bias, lack of a formal quality assessment and small sample sizes mean these conclusions should be treated with caution.

### **Authors' objectives**

To assess the levels of periaortic fibrosis (PAF) and ureteral obstruction in patients with aneurysmal chronic periaortitis (inflammatory aneurysm) treated with open surgery or endovascular aneurysm repair (EVAR).

### **Searching**

MEDLINE was searched for studies published in English, German or French from 1970 to October 2007; search terms were reported. Reference lists of included studies and review articles were scanned for additional studies.

### **Study selection**

Eligible studies diagnosed inflammatory aneurysm according to accepted criteria where the intended treatment strategy was open surgical or endovascular aneurysm exclusion. Studies had to provide detailed information for at least one of the primary outcomes of interest: evolution of periaortic fibrosis, including data of repeated CT (computed tomography) scanning that allowed categorisation of periaortic mass regression; and evolution of ureteral obstruction. Studies that assessed atherosclerotic or mycotic aneurysm repair were excluded. Single case reports and abstracts were excluded.

Included studies comprised retrospective and prospective case series. Patients treated with open surgical aneurysm repair had a mean patient age of 67 years (range 28 to 92) and 82% were male. Preoperative ureteral obstruction was present for 31% patients. Patients treated with EVAR had a mean patient age of 67 years (range 56 to 82) and 90% were male. Pre-operative ureteral obstruction was present for 37% patients.

The authors did not state how studies were selected for the review.

### **Assessment of study quality**

The authors did not state that they assessed validity.

### **Data extraction**

Data were extracted as absolute numbers and percentages. The authors did not state how many reviewers performed data extraction.

### **Methods of synthesis**

Outcomes were pooled to derive percentage estimates.

### **Results of the review**

A total of 19 studies were included in the review (n=478 patients): 13 studies assessed open surgical techniques (n=426, range six to 110) with a mean follow-up of between seven and 55 months; and six studies assessed EVAR (n=52, range six to 11) with a mean follow-up of between 19 and 33 months.

Regression of PAF occurred significantly more frequently following open surgery compared to EVAR (86% versus 60%). Complete regression of PAF was significantly more frequent following open surgery compared to EVAR (52% versus 14%).

Frequency of persistent ureteral obstruction was lower in patients treated surgically compared to patients treated with EVAR (27% versus 53%) and remained lower in these patients following exclusion of patients who received concurrent ureterolysis (32% versus 56%); these differences were not statistically significant.

### Authors' conclusions

Although open surgery was superior to EVAR in achieving regression of chronic periaortitis, frequency of persistent PAF and/or ureteral obstruction was not negligible. Additional medical and/or urological treatment should be considered in selected cases of aneurysmal chronic periaortitis.

### CRD commentary

The review question was clear and supported by appropriate inclusion criteria. Limited study details were reported. A limited search of the literature was undertaken; this was restricted to publications in English, German or French and language bias may have been introduced. The search did not appear to include any attempt to locate unpublished data and potentially relevant studies may have been missed. Methods used for study selection and data extraction were not reported; it was unclear whether methods were used to minimise error and bias. Study quality was not formally assessed, so the reliability of the included studies was unclear; most studies were small and contained less than 50 patients. A limited synthesis was undertaken. There was no assessment of heterogeneity. Uncertainty over review methods, potential for bias, lack of a formal quality assessment and small sample sizes mean these conclusions should be treated with caution.

### Implications of the review for practice and research

Practice: The authors stated that open surgical aneurysm exclusion was superior to EVAR in achieving regression of chronic periaortitis and resolution of ureteral obstruction in patients with aneurysmal chronic periaortitis, but additional medical and/or urological treatment (combined with renal drainage when required) should be considered in selected cases of aneurysmal chronic periaortitis, especially where severe and/or bilateral ureteral obstruction and/or a large periaortic mass was present.

The authors did not state any implications for research.

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