Primary infected aortic aneurysms are thankfully rare as the surgery can be technically challenging and mortality is about 20%. There is little information on the conservative treatment of arterial infections with antibiotics alone but, by the time of diagnosis, most patients have either ruptured or developed a false aneurysm so that additional debridement and aortic replacement is essential. In stable patients, the diagnosis can be made from the clinical picture and CT scan, allowing planned surgery whereas, after rupture, the diagnosis may only become evident at operation, which can limit therapeutic options.

The major controversy regarding treatment is how to revascularise the lower limbs without risking secondary graft infection. Lai and colleagues describe their experience using preferential in situ revascularisation with a prosthetic graft. In 18 of their 34 patients, Salmonella was the cause and in most, the aneurysm was infrarenal. The subsequent mortality was 18% but of those without gastrointestinal involvement, 25/26 patients survived. Their success was probably due to thorough debridement, omental flaps and broad-spectrum antibiotic cover. All four patients with gastrointestinal leakage around a vascular anastomosis died. Of two cases in which extra-anatomical grafts were used, one died but in both aortic ligation had been required to control haemorrhage. Consequently, this paper is not necessarily evidence against extra-anatomical bypass, although it does confirm that good results can be obtained by in situ revascularisation. There were two successful endovascular repairs but in both the infection had previously been controlled by antibiotics. It therefore remains to be seen whether endovascular grafting is wise in the presence of active infection, despite some previous favourable reports.

During follow-up two patients developed graft infection and more may appear over time. Lai et al. did not use long-term antibiotics, rifampicin-bonded or silver coated grafts but, whilst the last two have in vitro antibacterial activity, there is little hard evidence of clinical benefit. Cryopreserved allografts have increased bacterial resistance but are expensive and are not immediately available. Moreover, late aneurysm formation and graft rupture occurs in a small proportion of patients. Nevertheless, good results have been reported.

Autogenous grafts should have the greatest resistance to infection. Spiral long saphenous grafts have been successfully used for infected aortic aneurysms. Femoro-popliteal vein grafts have been employed extensively for aortic graft infection, are easier to prepare, are durable and have been used for infected aneurysms. Femoro-popliteal vein harvesting adds an hour to the operation if only one experienced surgeon is available and so may not be viable for ruptured aneurysms where active bleeding necessitates initial aortic cross-clamping. Nevertheless, in stable patients a preoperative duplex scan will show the suitability of one or other vein so that urgent surgery can be planned and in ruptured aneurysms it is still an option if two operative teams can work simultaneously.

Whilst the replacement of infected aortic grafts with femoro-popliteal vein has become accepted practice, it is surprising that prosthetic grafts are still preferred for primary aortic infection. Perhaps in future vascular infections, revascularisation with autogenous vein should be considered more frequently.
Conflict of Interest
None declared.

References