Figure 2 Purse string is placed around the aortotomy and proximal anastomosis, correcting the size mismatch

between the conduit and the aortotomy (Fig 1). It is important to stop the bleeding without compromising the anastomosis or the blood flow from the aorta to the coronary arteries through the graft. We describe a simple method to resolve this issue.

TECHNIQUE

The proximal anastomosis is performed in the usual fashion using a running suture (Fig 1). If there is generalised bleeding or ooze around the anastomosis, a separate stitch (6/0 polypropylene) is placed as a separate purse string concentrically around the aortotomy approximately 5mm from the anastomotic edge. The perfusionist or anaesthetist is requested to reduce the blood pressure and the purse string is then tied, leading to a reduction of the aortotomy in a uniform style, thereby causing the bleeding or ooze to stop (Fig 2).

DISCUSSION

This simple and practical technique has been used by us successfully in several patients with size discrepancy between the conduit and the aortotomy. After tying the suture, there is a reduction in the tension at the proximal anastomosis and haemostasis is achieved. It also avoids the need to place extra sutures to secure the anastomosis, which can compromise both its immediate and long-term patency.²

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Use of a femoral impaction grafting system in revision total elbow arthroplasty

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BACKGROUND

Significant loss of humeral bone often needs addressing at a revision total elbow arthroplasty (Fig 1). A solution is impaction bone grafting using the Stryker (Newbury, UK) X-change® femoral impaction grafting system.

TECHNIQUE

Following removal of implants and cement, morsellised femoral head allograft is prepared and impacted into the proximal humerus using the distal femoral impactors. Distal impaction is achieved with the proximal femoral impactors (Fig 2). The 37.5mm (O) impactor is small enough to pass into the humerus with a low risk of fracture during impaction but sufficiently large to allow subsequent passage of the definitive implant. A neocortex of impacted bone should be formed prior to cementation using

Figure 1 Radiographs of a revision case where distal humeral impaction has been necessary: (A) preoperative anteroposterior, (B) preoperative lateral, (C) postoperative anteroposterior, (D) postoperative lateral

Figure 2 Intraoperative photograph showing the X-change® proximal femoral impactor in use in the distal humerus

a retrograde suction technique. Alternatively, for narrow canals, impaction of the entire canal can be followed by the use of the femoral corer, also found on the X-change® system, to create a canal for implant passage.

DISCUSSION

Impaction bone grafting of the proximal femur during revision hip replacement is a well described technique.^{1,2} It has also been reported in the revision elbow arthroplasty setting, to restore humeral bone.³ In the absence of specialised humeral impactors, previous authors have either impacted graft longitudinally around the outside of a cementation tube nozzle or used trial and final humeral prostheses as impactors. Our technique allows centrifugal impaction of allograft around a fixed central guidewire. This may provide a stronger base of distal humeral bone than longitudinal impaction alone. In addition, the final prosthesis is not required until implantation, minimising surface damage and contamination.

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The use of an oxygen cylinder key for removal of a Hoffmann II external fixator

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BACKGROUND

The Hoffmann II is a commonly used external fixator (Fig 1). It can be applied as a temporising measure or as definitive fracture fixation.¹ Different versions of the Hoffmann II system exist. The adjustment or removal of the Hoffmann frame is often carried out in a different centre to the one in which it was initially applied and the manufacturer's specific key (Fig 2) may not always be available. While the frame is applied under

Figure 1 A Hoffmann II external fixator

sterile conditions, instrumentation for adjustment or removal is not necessarily sterile. The keys for removing the device are packed sterile with the rest of the instruments for frame assembly. This means the whole pack needs to be opened and decontaminated for the sake of a short unsterile procedure, with obvious financial and logistical implications.

TECHNIQUE

The key used for opening the valve on oxygen/medical air cylinders, which is universally found in operating theatres on the back of anaesthetic trolleys, also fits Hoffmann II clamps (Fig 3). This allows the device to be removed in any centre without the sterile instruments being opened. If a key is not located with the oxygen cylinder, the theatre porters can locate one.

DISCUSSION

Sterile external fixator packs are often few and far between in theatre departments. The use of this commonly found key will certainly save theatre time but may also save money and leave the valuable kit available for the next polytrauma patient who needs it. This technique has been used within our unit and no complications have been experienced.

Reference

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Figure 2 A sterile packed external fixator key

Figure 3 A commonly found oxygen/medical air cylinder key