Novel reduction method for periprosthetic fractures around the femoral component of a hip arthroplasty

RA Singh, F Asprou, RW Trickett, SA Jones
Cardiff and Vale University Health Board, UK

CORRESPONDENCE TO

Rohit Singh, E: rohitamolsingh@hotmail.com

BACKGROUND

Periprosthetic fractures of the femur following hip replacement are serious complications that can prove difficult to treat. While the incidence of femoral fractures associated with primary joint replacement has been reported to be less than 1%,¹ the increasing numbers of

primary arthroplasty mean this is an ever increasing problem. Vancouver type B fractures are the most common fracture pattern.² When the femoral component is stable, open reduction and internal fixation is recommended in all but exceptional cases.³ Many different methods of fixation have been suggested. Biplanar fixation with onlay cortical strut allografting and compression plates has emerged as the favourable option for fractures around stable implants.⁴ However, maintenance of reduction of these fractures while applying biplanar fixation can be difficult technically. We present a novel method of holding the reduction while applying the fixation.

TECHNIQUE

Open reduction is achieved with large bone clamps. With this maintained, a cerclage wire passer with a heavy suture (Fig 1) is guided around the shaft at the level of the fracture. A heavy suture is passed around the shaft and tied (Fig 2). This is repeated at intervals along the fracture. Thus, the clamps can be released and the reduction maintained, allowing unhindered vision for the placement of the fixation device.

Figure 1 Cerclage wire passer (A) with heavy suture (B)

A = heavy suture tied around fracture; B = bone clamp;
C = cerclage wire passer with heavy suture

Figure 2 A cerclage wire passer with a heavy suture is guided around the diaphysis at the level of the fracture. A heavy suture is passed around the diaphysis and tied.

DISCUSSION

This technique uses inexpensive materials and basic trauma surgical skills. It aids the surgeon in maximising his or her visualisation of the fracture, achieving optimal exposure and time efficiency at this crucial stage of the operation.

References

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