

Removal Of Broken Femoral Stem: Case Report

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INTRODUCTION:

A periprosthetic fracture is a broken bone or implant that occurs around the prostheses of hip replacement. The location of the break is typically in the middle third of the femoral stem. Although removing the proximal loose fragment is relatively straightforward, removing the distal tip is difficult, and often feasible with techniques that result in weakening of the biomechanical properties of the femur. Here we are presenting an interesting technique for removal of broken femoral stem.

CASE REPORT:

A 67 years old Chinese lady with history of left cemented hemiarthroplasty done presented with complain of pain over the left hip. Past 7 years patient was ambulating well, she denied any trauma, fever, constitutional symptoms, and no abnormality at the surgical wound. The left hip movements were painful, with more severe over proximal thigh. Neurovascular examination of the left lower limb was unremarkable. X-ray done noted broken prosthetic femoral stem. Patient underwent revision surgery. A standard posterior approach used for exposure of the hip joint. After dislocating the hip, the broken proximal femoral component was easily removed. Noted the proximal end of the broken distal component was around 3 cm below the lesser trochanter and therefore grasping of the distal component was not feasible. A retrograde nailing technique used, with incision over centre of patella ligament done. Entry point over intercondylar notch made. Canal was reamed up to fractured femoral stem. Appropriate size of k-nail was inserted and advanced to the distal femoral stem. When the required contact between the nail and the distal part of the stem achieved, the femoral implant is pushed out in proximal direction by gentle hammering. Once the implant out, fully cemented total hip arthroplasty was done later on. Post-operative course was uneventful. On further follow up 2 months later patient was ambulating well without aid and without pain over hip and knee joint.



Fig.1 X-ray of pelvis – AP View
Showing broken prosthetic femoral stem



Fig. 2 Skin incision at the centre of patella ligament and retrograde K-nail inserted

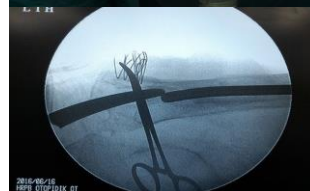


Fig. 3. I/I image showing broken stem pushed out from canal

DISCUSSIONS:

Although not common, metal fatigue has been implicated as the usual cause of femoral stem periprosthetic fracture. Factors predisposing to this form of stem failure include excessive patient weight, high levels of physical activity, malposition of the stem, the presence of a stress riser, and also reduced cross-sectional area within the stem¹. Various techniques have been described to encounter this problem such as extended trochanteric osteotomy, distal fenestration i.e. creating bone window to push fractured stem out². Techniques mentioned warrants longer incision, more stripping and osteotomy related non-union complications. Retrograde technique usually does not violate the cortex of the bone but complications such as cortex perforations, post-operative knee pain and secondary knee osteoarthritis should be taken into consideration. Therefore retrograde stem removal technique is good in preserving more peripheral cancellous bone, resulting in good revision outcomes.

REFERENCES:

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2. Stuart C. Kozinn. Simplified extraction of broken femoral stems: A brief technical note. J Arthroplasty 1989;4: 183-185