CONVERSION OF FAILED HEMIARTHROPLASTY TO TOTAL HIP ARTHROPLASTY

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ABSTRACT
The conversion of hemiarthroplasty of the hip to total hip arthroplasty (THA) has been reported to be associated with very high rates of Intra and post operative complications. Conversion THA is a technically challenging procedure and the overall clinical outcome is generally less satisfactory than primary THA. Risk factors include removal of the failed components, deficient host bone stock and reinsertion of new components. A stable mobile hip with good functional result was obtained at twelve months follow up (Harris Hip Score-94).

Keywords: Total Hip Arthroplasty (THA), Harris Hip Score (HHS)

INTRODUCTION
The primary goals of the conversion THA are long term reduction of pain and improvement of function after failed primary surgery. It requires long term stable mechanical fixation of the implanted components, acceptable wear rates of the articulating surface, minimization of osteolysis and avoidance of infection. The key for successful THA in these cases is preparation for multiple possibilities and clear plans about what to do for each possibility. It should be attempted by experienced surgeon and it is further more important to inform the patient about possible complications like infection, dislocation, heterotopic ossification, nerve palsy and peri-prosthetic fracture.

CASES
A fifty eight year old male, a school teacher by occupation, presented to us with complaints of pain in the right hip since five months. He presented to us with a painful (HHS-34) hip affecting his activities of daily living (ADL). He also gave history of slip and falls at bathroom seven years ago and injured his right hip, for which he underwent surgery at local hospital seven years back. Following that surgery he was able to do his daily activities, but now for past five months patient has severe pain in the right hip. On examination his right hip had a healed surgical scar, scarpae’s triangle tenderness, vascular sign of Narath was negative. He had fixed flexion deformity of fifteen degrees. His abduction, adduction and rotatory range of movements were adequate but terminal movements were painfully restricted. Clinically he had features of arthritis in right hip. X-rays showed Erosion of Acetabulum (EOA) by the Austin Moore’s prosthesis which was done seven years back correlating with our clinical finding, the reason for painful hip.

Under spinal anaesthesia, patient in left lateral position, using posterior approach Gluteus maximus was cut, iliotibial band was split, using flexion and internal rotation, the short external rotators were cut at femoral attachment. Capsule incised in routine ’T’ shaped fashion. Now the Austin moore’s prosthesis head was visualised. By careful gentle flexion, adduction and internal rotation it was dislocated. The soft tissue and bone from around the shoulder of the prosthesis was removed. After 2-3 mild blows the Austin moore’s prosthesis was extracted, also showing features of Aseptic loosening. Now the canal was visualised and thorough wash given. We did not require any trochanteric osteotomy or cortical window for removal of the Austin Moore’s prosthesis, as the prosthesis was quite loose. Now careful assessment of the acetabulum was done and we found destruction of the articular cartilage and erosion of acetabulum.

We decided to do a cemented THA since the bone stock was not good intraoperatively due to extensive erosion of acetabulum. Sequential reaming of the acetabulum was done and appropriate size acetabular...
component was fixed with cement after trial. Femoral segment was then prepared and adequate size femoral component was fixed with cement after trial. Mild release of anterior capsule was done to address the fixed flexion deformity. Reduction of hip done. Intra operative movements were found satisfactory wound closed in layers. Surgical time was two hours and thirty minutes. Drain removed on second post operative day. Thereafter patient mobilized with full weight bearing with walker support. There were no issues with wound healing nor did we encounter any neurovascular complications. At twelve months follow up his HHS was 94. He had good range of motion of right hip and X-rays showed good implant position without radiolucencies or signs of loosening.

**DISCUSSION**

Patient’s functional outcome was assessed by HHS which includes pain, limp, support, walking distance, stair climbing, range of movements, limb length discrepancy. Whereas Radiological outcome includes implant loosening, cup inclination, femoral stems position, subsidence and migration, dislocation, heterotopic ossification. In this study, HHS survey after surgery compared with before surgery showed considerable progress in joint function, so that HHS of 34 was elevated to 94 after one year.
Cossey and Goodwin have shown that conversion THA for symptomatic failed hemiarthroplasty gave the patient pain free and functionally acceptable life style, similar to our study. Pain following hemiarthroplasty is usually due to articular degeneration in the acetabulum or loosening of the prosthesis. The factors responsible for it are shear forces between the prosthesis and the cartilage, cementation of the prosthesis and impaction at the time of injury. Hammed et al did a study in conversion THA in which the mean pre-op HHS of 33.95 increased to a mean post-op HHS of 86.60. He also had about 19.1% of patients with excellent functional result which was comparable with our study. Mohamed et al., observed that articulation with hemiarthroplasty prosthesis for only five years may lead to erosion of the acetabular cartilage that are sufficiently severe to limit activity of daily living like our study. Dalldorf et al., also observed that acetabular cartilage will degenerate in a similar fashion following hemiarthroplasty. The bone quality is usually poor, as a result of pre existing osteoporosis which further increases the use of cement in THA. Peri prosthetic fracture is the most commonly encountered complication in these surgeries.

In our study, we used posterior approach as the surgical modality. Intra and post operative complications can affect the treatment results. In our present study of twelve months follow up we did not have any complications of surgery. There is a probability of complications in any surgery but the frequency of these complications is different according to the type of surgery and surgeon’s skill level. De Lee and Charnley Criteria were used for the radiological evaluation of cemented acetabular component. Gruen Zone Criteria was used for the radiological evaluation of cemented femoral component. It was found at the end of twelve months both acetabular component and femoral component position were stable and in acceptable position in our study.

**Conclusion**

Conversion of Failed Hemiarthroplasty to Total Hip Arthroplasty is a promising and worthwhile option in terms of pain relief and restoration of function and mobility, as near as possible to the pre-injury level.

**REFERENCES**


Case Report


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