

11th International Conference on

ARTHROPLASTY

September 24-25, 2018 London, UK

Outcome of uncemented total hip arthroplasty in failed primary replacement

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Introduction: Hemiarthroplasty (unipolar/bipolar) of the hip is a commonly performed procedure in elderly patients with intracapsular displaced fractures of the neck of the femur with good short-term results with regard to pain relief, return of activity, morbidity and mortality. Although bipolar hemiarthroplasty has been advocated for fracture neck of femur and few arthritic conditions of the hip joint, the results have not been very gratifying and it has largely been given up in favor of total hip replacement. Long term problems associated with hemiarthroplasty include progressive acetabular cartilage degeneration and concomitant groin pain, protrusio, stem loosening and subsidence and very poor results have been reported in active patients.

Methods: This is a prospective study carried out on 32 patients of revision total hip arthroplasty operated in our institute, Balaji Institute of Surgery, Research and Rehabilitation for the Disabled (BIRRD), Tirupati, from October 2011 to November 2017. Patients with failed primary hip arthroplasty due to aseptic loosening, protrusio acetabuli, dislocation, breakage of implant leading to loss of function, periprosthetic fracture, acetabular osteolysis are included in our study. Patients with failed internal fixation of proximal femoral fractures and infected primary hip arthroplasty are excluded from the study. The deformity, Range Of Movements (ROM) and limb length discrepancy were measured for all the patients in the standard pro forma. All the patients were assessed using Harris Hip Score. All patients were operated under combined spinal and epidural anesthesia. All patients were operated by posterior approach (Moore's approach) to hip joint. In patients with primary cemented arthroplasty and cemented hemiarthroplasty, extended trochanteric osteotomy was done for the removal of bone cement and followed by closure with circumferential stainless steel wiring. Student's paired t-test was used to find out the significance of difference between pre-operative and post-operative Harris Hip Score.

Results: The average pre-operative Harris Hip Score was 45.28 and the Harris Hip Score at most recent follow-up was 80.28. The result was excellent in 8 patients, Good in 13 patients, fair in 8 patients and poor in 3 patients. About 20% of the cases presented with pain postoperatively till the last follow-up, of which five cases reported mild pain with no effect on average activities and one case reported with moderate pain with some limitation of ordinary activity or work. Two cases presented with anterior thigh pain and one case with foot drop which was not recovered till their last follow-up.

Conclusion: Uncemented revision total hip arthroplasty is the procedure of choice for the patients with failed primary total hip arthroplasty or hemiarthroplasty providing pain relief, preservation of mobility, range of motion and easy rehabilitation. Modular series of uncemented total hip prosthesis is the implant of choice as it provides stability and bone ingrowth. Extended trochanteric osteotomy of the proximal femur allows complete removal of the broken femoral stem and bone cement with preservation of blood supply resulted in good bone healing. Complications like aseptic loosening and particle wear requiring re-revision have not been found in our study. Long term follow-up of the cases is required for the analysis of both clinical and radiological outcome.

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