

SHORT TERM RADIOLOGICAL EVALUATION FOR ACETABULAR EROSION WITH DIFFERENT BIPOLAR HEMIARTHROPLASTY HEAD SIZE

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Introduction: Bipolar hemiarthroplasty is one of the treatments of choice for displaced intracapsular neck of femur fracture in the elderly. Its theoretical advantages over the unipolar hemiarthroplasty are reduced rate of acetabular erosion and it can be converted to total hip arthroplasty if revision is required. Few previous studies were done in Caucasian population to assess factors affecting the rate of acetabular erosion in bipolar hemiarthroplasty. However, there was no such study done in the Asian population, so we performed a retrospective study to assess the relationship between the acetabular erosion and bipolar head size.

Methodology: All cases of bipolar hemiarthroplasty for traumatic neck of femur fracture from January 2012 to December 2017 were included. A total of 36 patients were included in this study. The acetabular erosion was assessed radiographically using the measurement of the distance between the acetabulum and the head of femur (Bakers classification) and by measuring the superior and medial migration of the femoral prosthetic head (La Belle measurement) two years postoperatively. Bipolar head size 44mm and below was taken as smaller head, bipolar head size 45mm and above was taken as larger head

Discussion: There was significant association between bipolar head size and Bakers classification of acetabular erosion. Twenty-nine patients with head size 44mm and below showed Bakers grade 1 and 2 acetabular erosion and only 7 patients with head size 45mm and above were noted to have acetabular erosion. Patients with head size 44mm and below had significantly higher superior and medial migration compared to patients with head size 45mm and above. Patients with Bakers 1 have significantly lower superior and medial migration than patients with Bakers 2.

Conclusion: We conclude that smaller bipolar head of 44mm and below in bipolar hemiarthroplasty leads to earlier acetabular erosion compared to bipolar head size 45mm and above.