

Unipolar versus Bipolar Hemiarthroplasty for Displaced Femoral Neck Fractures in the Elderly: Is There a Difference?

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Abstract

Introduction: Hip hemiarthroplasties are commonly performed for displaced femoral neck fractures. Considerable differences of opinion exists regarding the choice between unipolar and bipolar designs. The main theoretical advantage of a bipolar over a unipolar prosthesis is the reduction of acetabular erosion due to movement taking place within the implant rather than at the acetabular implant interface. It is thus hypothesised that bipolar prostheses lead to better long-term functional outcomes with less complications. In this study, we aimed to compare unipolar (Moore's) and bipolar hemiarthroplasty looking specifically for differences in 1) pain and functional hip scores; 2) rates of acetabular erosion, component migration and revision surgery; and 3) rates of postoperative morbidity. **Materials and Methods:** Inclusion criteria were 1) age more than or equal to 65 years; 2) displaced femoral neck fracture of non-pathologic origin; 3) normal cognitive function; 4) ambulatory with or without assistive devices prior to the fracture; and 5) treated with a primary prosthetic replacement. Of the 193 patients that were available for review, 118 were in the Moore's group and 75 in the bipolar group. Postoperatively, patients were assessed with regards to pain, satisfaction, Modified Harris hip score and Oxford hip score. Standard anteroposterior pelvis and lateral hip radiographs were obtained at regular intervals. These were analysed specifically with regards to acetabular erosion and component migration. **Results:** There was no significant difference between a Moore's and a bipolar prosthesis regarding hip pain, functional hip scores, rates of acetabular erosion, component migration, revision surgery and complications rates. **Conclusion:** Use of the more expensive bipolar prosthesis in elderly and pre-morbidly ambulant patient is not justified.

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