

Acute Total Hip Arthroplasty (THA) for Geriatric Acetabular Fractures have Similar 1-Year Outcomes Compared to THA for Femoral Neck Fractures and Hip Osteoarthritis

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INTRODUCTION: The objective was to assess how acute total hip arthroplasty (THA) for geriatric acetabular fractures compares to THA for femoral neck fractures and hip osteoarthritis.

METHODS:

This study used an IRB-approved registry to evaluate and compare three patient cohorts at an urban academic medical center. Fifteen elderly patients with a mean age of 70.67±8.22 who sustained an acetabular fracture and underwent an acute THA with fracture fixation were identified. The acetabular fracture cohort was propensity-matched at a 3:1 ratio to the femoral neck and osteoarthritis cohorts who underwent a THA based on age, sex, body mass index (BMI), and American Society of Anesthesiology ([ASA](#)) score. All patients underwent a posterior approach for THA. Patient demographics, injury details, perioperative parameters, hospital quality metrics, complications, and functional outcome measures were recorded. The Functional Ambulation Classification (FAC) is a validated assessment tool to evaluate ambulatory ability based on the use of assistive devices and independence in ambulation. Comparative analyses using ANOVA and *t*-tests were performed for data analysis.

RESULTS: A total of 105 patients who underwent THA with a mean follow up of 14 months were identified among all three cohorts. No differences in patient demographics were observed, and mechanism of injury was comparable for all subjects. Patients who underwent THA for acetabular and femoral neck fractures had a significantly longer overall hospital stay (8 vs. 7 vs. 2 days, $p<0.001$) and higher complication rates (25% vs. 13% vs. 0%, $p=0.008$) compared to those who underwent THA for osteoarthritis. Additionally, patients who underwent THA for acetabular fractures had a higher need for ICU (25% vs. 6.7% vs. 0%, $p=0.004$) and a lower percentage of discharge disposition to home (21.4% vs. 57.8% vs. 88.9%, $p<0.001$). All three groups achieved a similar FAC score at one year postoperative (3.1 vs. 3.6 vs. 4.2, $p=0.099$), and there were no differences in hip dislocation, need for implant revision, readmission, or mortality rates.

DISCUSSION AND CONCLUSION: Even with longer overall hospital stay and higher complication rates, geriatric patients who undergo acute THA for acetabular fractures have similar mortality rates and functional outcomes at one year as patients who undergo THA for femoral neck fractures and hip osteoarthritis.