

Acute versus Delayed Total Hip Arthroplasty After Acetabular Fracture

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INTRODUCTION: Acetabular fractures can be devastating injuries to the hip joint and optimal treatment is often unclear. The risk of posttraumatic arthritis and conversion to total hip arthroplasty (THA) remains high despite advances in operative techniques. Recent trends in acute THA for treatment of acetabular fractures have emerged, however data regarding long-term outcomes is limited. The purpose of this study is to evaluate acute versus delayed THA for the treatment of acetabular fracture, and identify correlations in demographics, postoperative outcomes, and revision rates as they relate to fracture pattern.

METHODS: Retrospective review identified 165 patients who had THA for acetabular fracture performed at our institution. Patients were categorized as acute (<30 days from initial fracture) or delayed (>30 days from initial fracture). Basic demographics, fracture pattern, initial treatment, associated injuries, complications, and revision after THA were recorded. Patients were contacted to inquire about THA complications or revisions treated outside of our institution. Statistical analysis was performed using logistic regression, chi-square, and Wilcoxon testing.

RESULTS: 165 patients met inclusion criteria (50 acute, 115 delayed). Mean follow up for the acute cohort was 29.3 months, and 43.5 months in the delayed group. Patients who underwent acute THA were older at time of injury (66.2 vs 45.3 years, $p < 0.001$). The most common fracture pattern was isolated posterior wall ($n = 70, 42\%$). Revision rates between acute and delayed groups were not statistically significant. There was no statistically significant difference between fracture pattern and revision rate. Eighteen (10.9%) patients underwent revision arthroplasty with most undergoing revision for periprosthetic joint infection ($n = 9, 0\%$ acute THA; Figure 1).

DISCUSSION AND CONCLUSION: Overall revision rate in our cohort was 10.9% (6% acute, 13% delayed). Revision rates did not differ with regard to fracture pattern, age at time of injury or THA. We did observe a higher rate of periprosthetic joint infections in the delayed cohort. Future studies evaluating long term survivorship and patient reported outcomes may provide insight into patient populations that may benefit from acute versus delayed total hip arthroplasty for acetabular fractures.

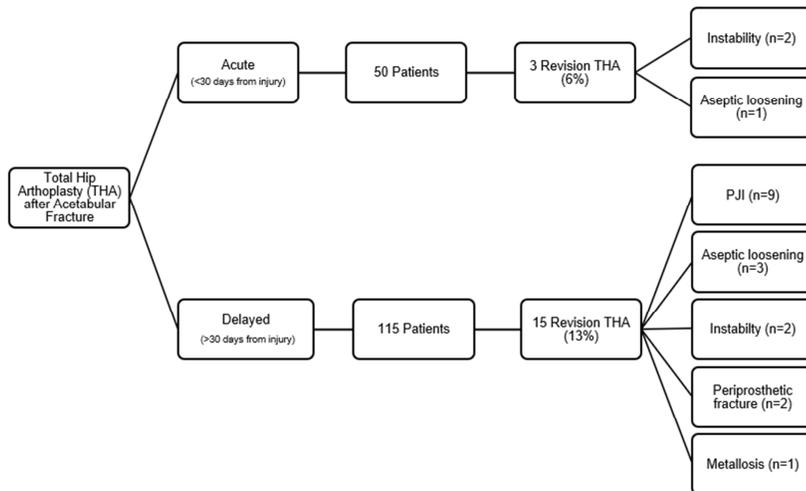


Figure 1. Revision pathology for acute versus delayed THA after acetabular fracture.