A Contemporary Analysis of Indications and Outcomes of Revision Total Hip Arthroplasty

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INTRODUCTION:

While primary total hip arthroplasty (THA) has been deemed the operation of the century, a subset of patients still require revision. Although registry data has identified common etiologies of primary THA failure, there remains a lack of large, contemporary clinical series detailing indications and outcomes of revision THA. The purpose of this study is to determine the indications and outcomes of patients undergoing revision THA.

METHODS:

We reviewed a consecutive series of 1,161 revision THA patients from 2017-2023 across 20 hospitals at our institution. We analyzed demographics, surgical approach, indication for revision, and complications for all patients. Time to failure was categorize as early (<2 years from index procedure) or late (≥2 years). A multivariate logistic regression analysis was performed to identify independent risk factors for re-revision.

RESULTS: With 35,701 primary THAs performed during the study period, the revision burden was 3.25%. The most common indications for revision THA were fracture (17%), aseptic loosening (16%), and infection (15%). Of the patients who had an early primary THA failure (37%), etiologies included infection (29%), fracture (26%), and instability (18%). In late failures (63%), the most common indications were polyethylene wear/osteolysis (24%), aseptic loosening (19%), and metallosis (16%). 150 revision THA patients (12.9%) underwent repeat surgery. When compared to patients undergoing revision for aseptic loosening, patients being revised for fracture (OR 5.37, $p<0.001$), infection (OR 4.99, $p<0.001$), and instability (OR 1.94, $p<0.001$) had higher rates of early re-revision. When compared to revision THA performed through the anterior approach, posterior (OR 0.57, $p<0.001$) and lateral approaches (OR 0.38, $p<0.001$) had lower re-revision rates.

DISCUSSION AND CONCLUSION:

Infection, fracture, and dislocation remain the leading indications for revision THA and are associated with higher failure rates when compared to patients undergoing revision for loosening.