Aseptic Revision Total Hip Arthroplasty in Patients 50 Years and Younger: Results of Over 500 Cases

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INTRODUCTION: There is a paucity of long-term outcomes data on aseptic revision total hip arthroplasties (THAs) in the young adult population. The purpose of this study was to evaluate implant survivorship, complications, and clinical outcomes in a large cohort of contemporary aseptic revision THAs in patients ≤50 years at the time of surgery.

METHODS: We identified 545 aseptic revision THAs in patients aged 18-50 years performed at a single academic institution from 2000 to 2020. Conversion THAs and patients with a history of infection were excluded. Mean age was 43 years, mean BMI was 29 kg/m^2, and 63% were female. Index indication for revision THA was aseptic loosening in 46% of cases, polyethylene wear/osteolysis in 28% (all revisions of conventional polyethylene), and dislocation in 11%. One-hundred-twenty-six patients (23%) had a previous revision (median 1; range, 1-5). Mean follow up was 10 years.

RESULTS: In the entire cohort, the 20-year survivorship free of any rerevision was 76%. The 20-year survivorship free of any rerevision was 79% in patients without prior revision and 68% in patients with a prior revision. There were 87 rerevisions, with dislocation (n=31), aseptic loosening of the femoral component (n=18), and infection (n=16) being the most common reasons for rerevision. Index revision for dislocation was associated with an increased risk of rerevision (HR 2.9; p<0.001). The 20-year survivorship free of any reoperation was 72%. There were 75 complications (14%) treated nonsurgically, including 31 dislocations. Mean Harris hip scores improved from 65 preoperatively to 80 at most recent follow up (p<0.001).

DISCUSSION AND CONCLUSION: Contemporary aseptic revision THAs in patients ≤50 years demonstrated a rerevision risk of approximately 1 in 4 at 20 years. Dislocation, aseptic loosening of the femoral component, and infection were the most common reasons for rerevision. Index revision THA for dislocation had a 3-times higher risk of rerevision.