

Total Hip Arthroplasty for Osteonecrosis in Patients Under 50 years old is Associated with an Increased risk of post-surgical Complications

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ABSTRACT

Introduction: Osteonecrosis (ON) of the femoral head is responsible for roughly 2 to 10% of total hip arthroplasty (THA) indications. The purpose of this study is to compare complication rates for patients under 50 years old undergoing THA for ON versus osteoarthritis (OA).

Methods: Patients between the ages of 18- and 50-years old undergoing THA for ipsilateral osteonecrosis were identified in the PearlDiver database. A control cohort of patients between the same age thresholds were identified who underwent THA for osteoarthritis. Any patient with a history of proximal femur fracture or prior operative fixation of a proximal femur fracture was excluded. Patients were included if they had a 5-year postoperative database followed up after THA. The 90-day rates of post-operative medical and 5-year surgical complications were recorded. Multivariate analysis was conducted to account for confounding variables and covariates.

Results: A final cohort of 6,955 patients met inclusion criteria, 1,769 (25.4%) underwent THA for osteonecrosis while 5,186 (74.6%) underwent THA for OA. Patients undergoing THA for ON had a higher incidence of 5-year post-surgical instability (3.1% vs. 2.2%, OR 1.51, $P=0.025$) when compared to THA for OA. Similarly, those undergoing THA for OA had a higher incidence of 5-year revision (4.4% vs. 3.0%, OR 1.45, $P=0.018$) and 90-day readmission (8.0% vs. 4.4%, OR 1.41, $P=0.006$), and emergency department visits (18.4% vs. 11.1%, OR 1.33, $P=0.001$) when compared to those undergoing THA for OA.

Conclusion: Patients younger than 50 years old undergoing THA for ON experience increased post-surgical complications such as revision, dislocation, hospital readmission and emergency department visits compared to patients under 50 years old undergoing THA for OA. These findings provide insight for preoperative considerations for arthroplasty surgeons in this patient population.