

The Impact of Acquired Immunodeficiency Syndrome on Post-Operative Outcomes Following Total Hip Arthroplasty: A Propensity Score-Match Analysis

Introduction: Total hip arthroplasty (THA) is one of the most common orthopedic procedures performed. However, there is limited literature on how Acquired Immunodeficiency Syndrome (AIDS) affects postoperative outcomes. This retrospective analysis serves to compare postoperative outcomes in patients with and without AIDS after THA.

Methods: Using the National Inpatient Sample (NIS), patients admitted from 2005 to 2012 for THA were retrospectively reviewed. A 1:1 propensity score-match (PSM) by age, gender, and obesity status was performed. Univariate analyses evaluated demographics, complications, subsequent revision, and mortality. Multivariate binary logistic regression models were also conducted.

Results: A total of 647 propensity score-matched patients were identified. Both cohorts were nearly identical in gender (AIDS: 18.2% female, non-AIDS: 16.8% female $p=0.511$) and obesity status (AIDS: 4.9%, non-AIDS: 3.7% $p=0.215$). AIDS cohort was younger on average (AIDS: 48.87 years, non-AIDS: 50.55 years $p=0.003$). Compared to the non-AIDS cohort, the AIDS cohort had greater Deyo scores (AIDS: 6.60, non-AIDS: 0.35, $p<0.001$), length of stay (AIDS: 4.73 days, non-AIDS: 3.24 days, $p<0.001$), and total hospital charge (AIDS: \$63,206.35, non-AIDS: \$49,737.20, $p<0.001$). The 1:1 PSM showed that the AIDS cohort comparatively had greater rates for surgical and medical complications; most notably wound complications, blood transfusions, pneumonia, and acute renal failure (all $p<0.05$).

Conclusion: Patients with AIDS undergoing THA, compared to non-AIDS patients, had a greater risk for surgical and medical postoperative complications. The AIDS cohort also had greater Deyo scores, hospital charges, and length of stay. These results can help revise postoperative care in this patient cohort.