

The Impact of Asymptomatic Human Immunodeficiency Virus (HIV)-Positive Disease Status on Complications in Patients Undergoing Five Common Orthopaedic Procedures: A Propensity Score-Matched Analysis

Introduction: In the US, nearly 1.1 million people (over 13 years of age) have human immunodeficiency virus (HIV) infection. While symptomatic HIV disease has a well-studied adverse impact on postoperative outcomes, little is known about how HIV-positive patients with asymptomatic, well-controlled HIV (AHIV) fare postoperatively.

Methods: The NIS database was reviewed from 2005 to 2013 to identify all patients over 18 years who underwent total knee arthroplasty (TKA), total hip arthroplasty (THA), 2-3-level anterior cervical discectomy and fusion (ACDF), ≥ 4 -level spinal fusion (SF) for adult spinal deformity (ASD), and SF for degenerative disc disease, respectively. Patients with AHIV were identified and 1:1 propensity score-matched to patients without HIV (no-HIV) by age, sex, race, and insurance status. Univariate comparison of postoperative medical/surgical/total complications was performed, followed by multivariate binary logistic regressions to identify independent predictors of outcomes.

Results: AHIV and no-HIV cohorts experienced similar rates of overall medical complications (TKA: 19.3% vs 19.3%; THA: 29.2% vs 19.1%; ACDF: 2.4% vs 2.7%, SF/ASD: 34.9% vs 20.9%; SF/DDD: 15.8% vs 13.7%) (all, $p \geq 0.15$) and total complications (TKA: 21.1% vs 21.0%; THA: 30.3% vs 19.1%; ACDF: 3.0% vs 3.0%; SF/ASD: 39.5% vs 27.9%; SF/DDD: 18.6% vs 16.1%) (all, $p \geq 0.08$). AHIV status did not independently predict medical, surgical or total complications (all, $p > 0.05$).

Discussion: AHIV status did not significantly increase medical or overall rates of postoperative complications following common orthopaedic procedures. This study contributes data that may warrant improving preoperative risk stratification and planning in these patients.