

The Impact of Acquired Immunodeficiency Syndrome on Outcomes and Complications Following Adult Spinal Fusion: A Propensity Score-Matched Analysis

Introduction: There is limited literature evaluating the impact of AIDS status on long-term outcomes following spinal fusion surgery. The goal of this study is to compare outcomes and complication rates of spinal fusion surgery between patients with and without acquired immunodeficiency syndrome (AIDS).

Methods: Using the National Inpatient Sample (NIS), outcomes and complications after spinal fusion surgery for AIDS-diagnosed patients 18 years or older admitted from 2005 to 2012 were retrospectively reviewed.

A 1:1 propensity score-match (PSM) by age, gender, and obesity status was performed prior to data analysis. Univariate analyses evaluated demographics, complications, and mortality. Multivariate binary logistic regression models were conducted to identify correlations between AIDS and postoperative spinal fusion outcomes.

Results: A total of 414 propensity score-matched patients were identified. The AIDS cohort, compared to the non-AIDS cohort, had greater length of stay ($p < 0.001$), Deyo score ($p < 0.001$), and total hospital charge ($p < 0.001$). The average incidence rate between 2005 and 2012 for patients with AIDS undergoing spinal fusion is 1.7 [1.5 – 2.0] per 1,000,000 person-years. Patients with AIDS had greater rates of surgical and medical complications (all $p < 0.05$) (Table 1). AIDS was identified as an independent risk factor for surgical complications (OR:2.5) and medical complications (OR:2.6), and mortality (OR:10.4).

Conclusion: In the observed population undergoing spinal fusion, patients with AIDS had greater length of stay, Deyo scores, and total surgical charge. Patients with AIDS also had greater risk for surgical complications, medical complications, and mortality. These results can support management of postoperative outcomes in this patient cohort.