

Effects of Having Acquired Immunodeficiency Syndrome on Post-Operative Outcomes of Adult Laminectomy Patients

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INTRODUCTION: AIDS is a chronic, potentially life-threatening condition caused by the HIV virus that results in severe immune dysfunction. The impact of having AIDS on postoperative outcomes of adult patients undergoing laminectomy procedures is poorly understood. The purpose of this study was to characterize incidence rates and postoperative outcomes between adult acquired immunodeficiency syndrome (AIDS) patients and a control cohort undergoing laminectomy surgery.

METHODS: The National Inpatient Sample was queried to identify adult patients greater than 18 years of age who underwent laminectomy surgery (ICD9: 0309, 0302) from the years 2005 – 2012. Patient demographics and incidence rates of patients that had been diagnosed with AIDS were reported from the years 2005 – 2012. 1:1 propensity score match controlling for age, sex and obesity was performed. Univariate analysis was used to compare differences in postoperative complications and in-hospital mortality between patients with and without AIDS. Multivariate logistic regression analysis controlling for age, sex, race, and obesity status was done to determine independent risk factors for postoperative complications.

RESULTS: A cohort of 183 AIDS patients and 183 non-AIDS patients were identified. Both cohorts had similar sex (12.6% vs 15.3% female, $p=0.450$), age (49.48 vs 50.67 years, $p=0.339$) and obesity (1.6% vs 3.3%, $p=0.502$) distributions. The average incidence rate of patients who had AIDS from 2005 – 2012 was 0.9 (95%CI: 0.7– 1.1) per 1,000,000 person years. Incidence rates of AIDS patients increased by 7.86% from the years 2005 – 2012. Patients with AIDS who underwent a laminectomy experienced higher rates of transfusions (13.1% vs 3.8%, $p=0.001$), medical complications (23.0% vs 6.0%, $p<0.001$) acute renal failure (7.1% vs 0.5%, $p=0.001$) sepsis (7.7% vs 0.5%, $p=0.001$) and in-hospital mortality (23.0% vs 6.0%, $p=0.001$). Moreover, A diagnosis of AIDS was associated with an increased risk of transfusions (OR=3.8, 95%CI=1.6-9.0, $p=0.003$) acute renal failure (OR=13.9, 95%CI=1.8-107.5, $p=0.012$), sepsis (OR=15.1, 95%CI=2.0-115.9, $p=0.009$), and in-hospital mortality (OR=9.4, 95%CI=1.2-75.1, $p=0.034$).

DISCUSSION AND CONCLUSION: Patients with AIDS who underwent a laminectomy required more transfusions and suffered more medical complications, acute renal failure, sepsis, and in-hospital mortality in the postoperative period. Further studies should look to determine the specific etiology of these complications to inform optimization and management protocols for AIDS patients undergoing laminectomy in the preoperative and postoperative period.