

Session/Poster#

Presenter

C26

Mousa Payinkay

College of Medicine Student

Advisor(s): Dr. Carl Paulino, Orthopaedic Surgery & Rehabilitation Medicine

Effects of Sickle Cell Anemia on Postoperative Outcomes in Patients Undergoing Laminectomy

Introduction: Sickle cell anemia (SCA) is an inherited blood disorder that has propound implications on many organ systems, especially the musculoskeletal system. Patients with SCA have a higher risk of developing spinal pathologies. Including compression fracture, vertebral vaso-occlusive crises, and osteoporosis, among others. The impact of SCA on adult patients undergoing laminectomy is poorly characterized. This study aims to analyze effects of SCA on postoperative laminectomies.

Methods: Using the National Inpatient Sample, we identified patients who underwent laminectomy surgery (ICD9: 0309, 0302) from the years 2005 - 2012. A cohort of 157 SCA patients and 157 non-SCA patients were identified. Both cohorts had similar sex (male 52.9% vs 63.1% female) and BMI (14.0% vs 17.8%) distributions. Incidence rates of patients with SCA were reported from the years 2005 - 2012. 1:1 propensity score match controlling for age, sex, race, and obesity status was performed. Univariate analysis was used to compare differences in postoperative complications and in-hospital mortality in the SCA cohort. Multivariate logistic regression analysis was performed to determine SCA status as an independent risk factor for postoperative outcomes between the two cohorts. This allowed us to minimize the effects of cofounding variables and differences between cohorts aside from the variable of interest.

Results: The average incidence rate of patients who had SCA from 2005 - 2012 was 0.7 (95%CI: 0.6 - 0.8) per 1,000,000 person/years. Postoperatively Patients with SCA who underwent a laminectomy procedure did not experience higher rates of overall surgical and medical complications ($p>0.05$).

Discussion and Conclusion: Patients with SCA who undergo laminectomy did not experience higher rates of post-operative surgical complications or medical complications. The findings suggest that SCA patients and non SCA patients who receive laminectomies should not require alternative guidelines.