Session/Poster# Presenter

C03 Joshua Singavarapu
College of Medicine Student

Advisor(s): Dr. Qais Naziri, Orthopaedic Surgery & Rehabilitation Medicine

Total Knee Arthroplasty Patients with Underlying Ventricular Septal Defect Experience Higher Rates of Post-Operative Surgical Complications

Introduction: It has previously been demonstrated that patients with congestive heart failure experience significantly higher rates of operative complications. However, the impact of an underlying ventricular septal defect (VSD) on postoperative outcomes of total knee arthroplasty (TKA) remains poorly understood. The study aims to characterize the impact of VSD on postoperative outcomes for TKA patients.
Methods: A retrospective cohort study was conducted in patients having undergone TKA with or without VSDs. The National Inpatient Sample was contacted to identify patients who underwent TKA surgery from 2005 to 2012. The data was then analyzed to identify patient demographics from 2005 to 2012. Multivariate logistic regression analysis controlling for age, sex and obesity status was performed to determine rates and risks of postoperative complications between the VSD and control cohorts.
Results: A cohort of 57 VSD patients and 57 non-VSD patients were identified. Both cohorts had similar sex (64.9% vs 66.7% female), age (63.86 vs 64.54 years), and obesity (14.0% vs 17.5%) distributions. The average incidence of patients who had a VSD from 2005 to 2012 was 0.23 (95%CI: 0.17 - 0.29) per 1,000,000 person years. Incidence rates of VSD patients increased by 2.87% from the years 2005 to 2012. VSD patients who underwent a TKA procedure had higher rates of overall surgical complications ($p<0.043$). Furthermore, VSD was found to be an independent predictor of increased risk of surgical complications (OR=4.304, 95% CI=1.132 - 16.370, p=0.032).
Conclusions: VSD patients who underwent TKA experienced higher rates of post-operative surgical complications than non-VSD patients. These findings could inform future post-operative management of VSD patients in order to optimize surgical outcomes of TKA.