\# 230 Lucy Wei Advisor(s): Dr. Qais Naziri M.D.

Effects of Having an Atrial Septal Defect on Post-Operative Outcomes of Total Knee Arthroplasty Patients

Introduction: Atrial septal defect (ASD) may lead to life threatening complications such as arrhythmias or heart failure. This study aims to characterize incidence rates of ASD and its impact on post-operative outcomes of total knee arthroplasty surgery (TKA).
Methods: The National Inpatient Sample was queried to identify patients who underwent TKA surgery from the years 2005 – 2012. Patient demographics and incidence rates of ASD between 2005 – 2012 were reported. Controlling for age, sex and obesity status, differences in postoperative outcomes in the ASD cohort and a control cohort were compared. Multivariate logistic regression controlling for age, sex and obesity status was performed to determine if ASD is a predictor of postoperative complications.
Results: Two cohorts of ASD and non ASD patients were identified (n=559 each). The average incidence rate of patients who had an ASD from 2005 – 2012 was 2.27 (95%CI: 1.74 – 2.81) per 1,000,000 person years. ASD patients who underwent a TKA procedure had higher rates of overall surgical complications, medical complications, transfusions, acute myocardial infarctions, acute renal failure, pulmonary embolisms, deep vein thrombosis, and cerebrovascular events (all, p<0.05). Moreover, ASD was found to be an independent predictor to have increased risk of surgical complications (OR=1.516, 95%CI=1.084 – 2.119, p=0.015).
Conclusion: ASD patients who undergo TKA experienced higher rates of post-operative complications compared to patients without ASD. These findings should be taken into consideration to optimize these patients prior to TKA surgery, as well as to modify post operative care.