

Effect of Having an Atrial Septal Defect on Post-Operative Outcomes of Primary Shoulder Arthroplasty Patients

Objective: To characterize incidence rates and postoperative outcomes between atrial septal defect (ASD) patients and non-ASD patients undergoing primary shoulder arthroplasty surgery (PSA).

Summary of background data: An ASD is a congenital heart defect in which there is a channel between the atria leading to abnormal blood flow. ASD has been shown to cause serious postoperative complications such as arrhythmias and/or heart failure following various procedures. However, the impact of ASD on postoperative outcomes of patients undergoing PSA is poorly understood.

Methods: The National Inpatient Sample was queried to identify patients who underwent PSA (ICD9: 8180, 8181, 8188) from the years 2005 – 2012. 1:1 propensity score match controlling for age, sex, and obesity status was performed. Univariate analysis was used to compare differences in postoperative complications, revision of shoulder arthroplasty (ICD9: 8197), and in-hospital mortality in the ASD cohort. Multivariate logistic regression analysis controlling for age, sex, and obesity status was performed to determine ASD status as an independent risk factor for postoperative outcomes between the two cohorts.

Results: A study cohort of 72 ASD patients and 72 non-ASD patients were identified. Both cohorts had similar characteristics. The average incidence rate of patients who had an ASD from 2005 – 2012 was 0.30 (95% CI: 0.19 – 0.41) per 1,000,000 person years, and incidence rates of ASD patients increased by 4.96% from the years 2005 – 2012. ASD patients who underwent PSA did not experience significantly different rates of postoperative complications compared to non-ASD patients (all, $p > 0.05$).

Conclusions: Compared to non-ASD patients, ASD patients are at no greater risk of postoperative complications following PSA.