

The Impact of Ventricular Septal Defect on Outcomes and Complications Following Total Hip Arthroplasty: A Propensity Score-Match Analysis

Introduction: There is limited literature evaluating the outcomes of patients with ventricular septal defect (VSD) following total hip arthroplasty (THA). This retrospective study utilized a score-matched analysis to compare the outcomes and complication rates between patients with and without VSD undergoing THA.

Methods: Using the National Inpatient Sample, patients admitted from 2005 to 2012 with an ICD9 code of VSD (7454) who underwent THA were reviewed. A 1:1 propensity score-match (PSM) by age, gender, and obesity status was performed. Univariate analyses evaluated demographics, complications, revision, and mortality. Multivariate binary logistic regression models identified correlations between VSD and postoperative THA outcomes, controlling for age, sex, and obesity status.

Results: A total of 40 propensity score-matched patients were identified (VSD: n=15; non-VSD: n=25). The VSD and non-VSD groups were similar in age (60.71 years vs. 59.51 years; $p=0.718$), gender (70.7% female vs. 61.0% female; $p=0.352$), and obesity status (12.2% vs. 22.0%; $p=0.240$). Both cohorts had comparable length of stay (LOS) ($p=0.644$), Deyo score ($p=0.939$), and total hospital charge ($p=0.548$). With a 1:1 PSM, patients with VSD, compared to non-VSD patients, did not have a significant difference in surgical complications ($p=0.078$), medical complications ($p=1.000$), or blood transfusion ($p=0.131$) (Table 1).

Conclusion: Among patients who underwent THA, VSD and non-VSD cohorts had comparable Deyo scores, surgical charges, LOS, and both surgical and medical complications. These results can support the postoperative management and concerns in this patient cohort.