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Preoperative Transfusion is Associated with Higher Risk of Discharge to an Institution Among Patients Undergoing Total Shoulder Arthroplasty

Introduction:

Medical optimization prior to surgery may involve preoperative blood transfusion, which could have associated complications. This study assesses the relationship between preoperative blood transfusion and discharge destination among patients who underwent total shoulder arthroplasty (TSA). Methods:

A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of TSA cases occurring between 2012-2021. Inclusion criteria was ≥ 18 years. Preoperative transfusion, the primary exposure, was defined as transfusion of ≥ 1 unit of whole or packed red blood cells within 72 hours prior to operative start time. Patients were divided into two cohorts based on occurrence of preoperative transfusion. The primary outcome was defined as discharge to either home or an institution postoperatively. Potential confounders included basic demographics, baseline health status, and procedure characteristics. Univariate analyses assessed differences between the two cohorts. Multivariable regression, adjusted for confounders, assessed the relationship between preoperative transfusion and discharge destination.

Results:

During the study, 38,260 TSA patients included 87 (0.2%) who received preoperative transfusion. The majority in both cohorts were aged 70–79, female, White, non-Hispanic, independent in function, ASA class 3, obese, non-smokers, and non-diabetic [Table 1]. On multivariable regression analysis adjusting for potential confounding factors, patients with versus without preoperative transfusion had 4.77 times higher odds (95% CI 2.55 to 7.94; p<0.001) of being discharged to an institution following TSA [Table 2]. Conclusion:

Compared to patients without, those with preoperative blood transfusion who undergo TSA have a higher risk of being discharged to an institution. Further studies on preoperative transfusion reasons and perioperative support may optimize patient outcomes.