## A39

## David Kim M.D.

Advisor(s): Danielle Casagrande M.D.

Co-author(s): Vinay Bijoor, Tymon Krzywinski, Chibuokem P. Ikwuazom, David H. Mai, Justin Tsai, Jad Bou Monsef, Carl Paulino, Daniel Wilen, Daniel Caligiuri, Clifford Voigt

## Elevated Preoperative International Normalized Ratio (INR) May Predict Longer Hospitalization for Total Shoulder Arthroplasty.

Introduction: Preoperative international normalized ratio (INR) is used for assessing coagulation function. Previous literature cites elevated INR as a predictor of bleeding complications and major cardiovascular events. This study sought to apply these principles to assess the relationship between preoperative INR and surgical admission length of stay (LOS) 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 from 2012-2021. Inclusion criteria was age≥18 years. Patients were divided into four cohorts based on preoperative INR value. The primary outcome, LOS, was measured in days. Potential confounds included basic demographics, baseline health status, and procedure characteristics. Univariate analyses assessed differences between cohorts. Complete case analysis was performed using multivariable regression, adjusting for potential confounds, to evaluate the relationship between preoperative INR and LOS.

Results: During the study period, 15,397 patients underwent TSA. The INR  $\leq 1$ , 1.01-1.24, 1.25-1.49, and  $\geq 1.5$  cohorts contained 10,274, 4,342, 430, and 351 patients, respectively [Table 1].

On multivariable regression analysis, adjusted for potential confounds, patients with INR 1.01-1.24 (OR 1.07, 95% CI: 1.04, 1.09; p<0.001), INR 1.25-1.49 (OR 1.15, 95% CI: 1.08, 1.21; p<0.001), and INR $\geq$ 1.5 (OR 1.18, 95% CI: 1.11, 1.25; p<0.001) had longer surgical admission LOS following TSA compared to patients with INR $\leq$ 1 [Table 2].

Conclusion: Patients with elevated preoperative INR undergoing TSA have an increased risk of prolonged surgical admission length of stay, indicates possible applications for INR as a preoperative predictor. Further study characterizing the preoperative management of coagulation function, as well as supportive perioperative strategies for patients with impaired function, may optimize outcomes.