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Elevated Preoperative International Normalized Ratio (INR) May Predict Institutional Discharge Among Patients Undergoing Total Shoulder Arthroplasty.

Introduction: Preoperative international normalized ratio (INR) is used for assessing coagulation function. Previous study cites elevated INR as a predictor of bleeding complications and major cardiovascular events. This study sought to assess the relationship between preoperative INR and postoperative 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 from 2012-2021. Inclusion criteria was age ≥ 18 years. Patients were divided into four cohorts based on preoperative INR value. The primary outcome was defined as discharge to home or institution postoperatively. Potential confounds included basic demographics, baseline health status, and procedure characteristics. Univariate analyses assessed differences between cohorts. Multivariable regression analysis, adjusting for confounds, assessed the relationship between preoperative INR and discharge destination.

Results: During the study period, 15,397 patients underwent TSA. The INR ≤ 1 , 1.01-1.24, 1.25-1.49, and ≥ 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 1.46, 95% CI: 1.28, 1.66; $p < 0.001$), INR 1.25-1.49 (OR 1.90, 95% CI: 1.43, 2.51; $p < 0.001$), and INR ≥ 1.5 (OR 1.73, 95% CI: 1.24, 2.36; $p < 0.001$) had increased risk of discharge to an institution following TSA compared to patients with INR ≤ 1 [Table 2].

Conclusion: Patients with elevated preoperative INR who undergo TSA have an increased risk of discharge to an institution rather than home, indicating 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 help optimize outcomes.