A61

Joshua Buksbaum M.D. Advisor(s): Danielle Casagrande M.D.

Co-author(s): Joshua Buksbaum, Vinay Bijoor, Mohammed Shah, Ryne Veenema, David H. Mai, Alexander Tejani, Rose Park, Aden Malik, Clifford Voigt, Barbara Freeman, Carl Paulino

Diminished Serum Albumin is Associated with Institutional Discharge Among Patients Undergoing Total Shoulder Arthroplasty

Introduction:
Serum albumin measurement is a low-cost test assessing nutritional status and organ function. This study examined the relationship between preoperative serum albumin levels and postoperative discharge destination in total shoulder arthroplasty (TSA) patients.
Methods:
A retrospective cohort study was performed using NSQIP data from 2012-2021. Inclusion: age ≥18 years. Patients were grouped by preoperative albumin: severe hypoalbuminemia (<3 mg/dL), mild hypoalbuminemia (3-3.49 mg/dL), normal (3.5-4.49 mg/dL), and hyperalbuminemia (≥4.5 mg/dL). The primary outcome was discharge to home or an institution. Confounders included demographics (age, sex, race, ethnicity), baseline health (functional status, ASA class, BMI, smoking, diabetes, immunosuppressive therapy), and procedure characteristics (admission origin, surgical setting, anesthesia, transfusion, emergency designation). Univariate analyses assessed differences between cohorts, and multivariable regression examined the relationship between albumin and discharge destination.
Results:
Among 18,044 TSA patients, 13,744 had normal albumin, 1,055 mild hypoalbuminemia, 248 severe hypoalbuminemia, and 2,997 hyperalbuminemia. Most hypoalbuminemia and normal albumin patients were 70-79 years old, female, White, non-Hispanic, functionally independent, ASA class 3, obese, and had no smoking, diabetes, or immunosuppressive therapy. The hyperalbuminemia cohort had more patients aged 60-69, male, and ASA class <3.
Adjusted multivariable regression showed severe (OR 3.82, 95% CI 2.71-5.38; $p<0.001$) and mild (OR 1.91, 95% CI 1.58-2.30; $p<0.001$) hypoalbuminemia patients had higher institutional discharge risk compared to normal albumin. Hyperalbuminemia patients (OR 0.54, 95% CI 0.43-0.68; $p<0.001$) had lower risk.
Conclusion:
TSA patients with lower preoperative albumin levels have higher institutional discharge risk. Further studies on albumin management and perioperative support may improve outcomes.