Nutritional Status Predicts Short-Term Clinical Outcomes following Total Joint Arthroplasty.

Introduction. Preoperative malnutrition is a well-documented predictor of postoperative complications among patients undergoing surgery. However, its effect on outcomes in patients undergoing total joint arthroplasty (TJA) is unclear. We investigated the effects of preoperative hypoalbuminemia, a marker for malnutrition, on outcomes within 30 days after TJA.

Methods. Patients undergoing TJA were identified in the 2005 to 2015 American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) database and stratified by serum albumin (hypoalbuminemia considered less than 3.5 g/dL). Multivariable analyses were performed to assess the association of preoperative hypoalbuminemia with 30-day morbidity, mortality, length of stay (LOS), and readmission rates.

Results. We identified 128,412 patients with a recorded preoperative serum albumin who underwent elective primary total hip arthroplasty (THA, n = 48,751) or elective primary total knee arthroplasty (TKA, n = 79,661). Patients who underwent either procedure had a similar prevalence of preoperative hypoalbuminemia (4.26% vs. 4.25%, respectively). For THA, hypoalbuminemia was most highly associated with mortality (Odds Ratio [OR], 7.939; 95% Confidence Interval [CI], 4.964-12.696), pneumonia (OR, 4.036; CI, 2.839-5.737), progressive renal insufficiency (OR, 3.595; CI, 2.001-6.458), organ space infection (OR, 3.452; CI, 3.311-7.221), and unplanned reintubation (OR, 2.788; CI, 1.632-4.765). For TKA, hypoalbuminemia was most highly associated with mortality (OR, 3.689; CI, 2.277-5.978), progressive renal insufficiency (OR, 3.426; CI, 2.245-5.245), unplanned reintubation (OR, 3.398; CI, 2.122-5.530), and pneumonia (OR, 3.189; CI, 2.388-4.260). Hypoalbuminemia was also associated with greater LOS post-THA (mean difference [MD], 0.687; CI, 0.603-0.771) and post-TKA (MD, 0.348; CI, 0.265-0.431), and 30-day readmission post-THA (OR, 2.218; CI, 1.860-2.644) and post-TKA (OR, 1.943; CI, 1.672-2.259).

Conclusions. Preoperative hypoalbuminemia was associated with increased postoperative morbidity, mortality, LOS, and readmission rates among patients undergoing TJA. Optimization of albumin should be performed perioperatively to mitigate morbidity and mortality risk, and to reduce LOS and readmission.

The main educational objective of my presentation would be:
After listening to this presentation, participants should be able to explain how nutritional deficiency relates to postoperative infection, reoperation, and readmission rates in patients with hip fracture undergoing repair.

Name: Cary Politzer Degree(s): BS
☐ Physician ☐ Resident ☑ Medical Student
Affiliation: Duke University
Please complete and return this form, along with the Conflict of Interest Disclosure form, no later than Friday, May 19 to:
North Carolina Orthopaedic Association
PO Box 27167, Raleigh, NC  27611
FAX:  919-833-2023
Or submit information electronically (preferred) to:  nlowe@ncmedsoc.org