Letter to the Editor

Letter to the Editor: Low Albumin Levels, More Than Morbid Obesity, Are Associated With Complications After TKA

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To the Editor,

We read the recent study by Nelson and colleagues [4] evaluating the association of morbid obesity and preoperative low albumin levels with complications after TKA. By using multivariate regression analyses, the authors showed that morbid obesity was not independently associated with majority of postoperative complications, but low serum albumin levels were associated with increased

postoperative mortality and multiple major complications. They concluded that low albumin levels are associated with complications after TKA—even more so than morbid obesity. The authors used a large sample of patients from the National Surgical Quality Improvement Program (NSQIP) database, including most of the known factors that can affect perioperative morbidity and mortality of surgical patients. Additionally, the authors used appropriate statistical methods to determine association of morbid obesity and low albumin level with observed endpoints. However, we noted some concerns that go beyond the limitations already stated in the study.

We noted that preoperative hemoglobin level—a routine measured variable of surgical patients—was not

provided in the study. Preoperative anemia is highly prevalent in patients undergoing total knee replacement and has been shown as an important risk factor for early postoperative morbidity and mortality [5]. Furthermore, the patient demographics indicated that the mean ages of the study population was older than 65 years of age, and most of the patients were described as having multiple preoperative comorbidities such as coronary artery disease, hypertension, and diabetes mellitus. Did the NSQIP database include patients' perioperative medications? If so, Nelson and colleagues should examine the possible effects of these confounding factors on complications post-TKA. Other data indicate that perioperative ACE inhibitors, β -blockers, and statins are associated with reduced hospital morbidity and mortality in patients undergoing non-cardiac surgery [2]. In addition, ideal glycemic control in patients with diabetes mellitus is important and inadequate perioperative glycemic control has been associated with postoperative infectious complications in patients with diabetes mellitus undergoing TKA [3].

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We also noticed that readers were not provided with details of surgical and anesthetic management. In TKA patients, both revision surgery, bilateral surgery, and urgent surgery have been identified as independent predictors of postoperative complications. In a retrospective study including 15,321 TKA patients, prolonged operative times have also been shown as a predictive factor for the development of postoperative complications [1]. Additionally, a retrospective study including 14,052 TKA patients found that patients given a general anesthesia have a significant increased risk of postoperative complications compared with patients given a spinal anesthesia; the difference is greatest for patients with multiple comorbidities [6]. It must be emphasized that TKA leads indications for blood transfusions in surgical patients, and perioperative blood transfusion has been shown as

an independent predictor of increased postoperative morbidity and mortality, especially for patients with preoperative anemia and comorbidities [5].

Therefore, we argue that not including the above risk factors in the multivariable regression analysis could have biased the true effects of morbid obesity and low preoperative albumin levels on complications after TKA in this study.

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