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CORR Insights®: Diabetes Confers Little to No Increased Risk of Postoperative Complications After Hip Fracture Surgery in Geriatric Patients

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Where Are We Now?

The influence of comorbidities on complications after orthopaedic surgery has become an important topic. In the current study, the authors asked whether the presence of diabetes is associated with increased risk of complications or death after orthopaedic surgery. They have also stratified patients with diabetes into noninsulin versus insulin dependent categories. Using the American College of Surgeons (ACS) National Surgical Quality Improvement Program® (NSQIP®) database, the

authors found little difference in 30-day perioperative risk. In a similar study also using the ACS NSQIP® database, diabetes was not a risk factor for increased 30-day minor, major, or total morbidity, or 30-day mortality [9]. The authors' findings contrast with other hip fracture series [1, 3, 5, 6, 8] where diabetes was associated with increased perioperative complications. Additionally, several studies within the joint arthroplasty literature have found that elevated long-term blood glucose levels, as measured by Hemoglobin A1c, closely correlate with short-term complications [4, 7, 11]. In cases of elective

arthroplasty, surgeons may delay surgery for patients with uncontrolled diabetes to obtain better glucose levels. Surgeons treating hip fractures, however, do not have the luxury of time as early surgery on hip fracture patients is becoming normative.

Where Do We Need To Go?

The findings within this manuscript highlight the unanswered questions that remain regarding risk-adjustment after hip fracture surgery. How should we compare postoperative outcomes and quality between patients with and without diabetes? Unique to alternative national datasets, differences in variables collected, definitions used, outcomes measured, duration of followup, or techniques of analysis may all influence the results. For example, the authors chose to include a select collection of ACS NSQIP® variables, excluding laboratory values and operative times. Would the results have been the same if the study's inclusion age was lowered to 60 or even 55 years? Additionally, how should

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investigators handle variables with missing values? What outcomes are important and how feasible is data collection? Thirty-day systemic complication rates or readmissions? Fracture healing, reoperation rates, functional status, or mortality at 1-year? Unfortunately, the more “relevant” orthopaedic outcomes are often harder to measure and require followup beyond what is often feasible to collect on a national scale. Furthermore, many of these cannot be measured from claims data or common clinical registries like the ACS NSQIP® database.

How Do We Get There?

Currently, the government through CMS has already mandated quality assessment for elective TKA and THA, while penalizing underperforming outliers based on process measures/surgical care improvement project guideline compliance, readmissions, and inpatient adverse events, to name a few. These mandated quality metrics are spreading to procedures like hip fracture management. The orthopaedic surgery community has expressed concern that CMS performance measures lack relevance [2], highlighting the importance of specialty-defined outcomes. In the next few years, investigators must work

towards finding common ground. Will that be done using claims data? A single, national clinical registry? The American Joint Replacement Registry is emerging as a US leader in total joint arthroplasty, but what about hip fractures? As a specialty, orthopaedics must learn from groups like the Society of Thoracic Surgeons. We must understand how they developed self-defined outcomes and a risk-adjusted quality reporting system [10]. Without robust risk-adjustment algorithms, surgeons and hospitals may feel forced to focus on their “scorecard,” which may indirectly restrict patient access to optimal care. Ultimately, studies like this are critically important to help establish the science of quality assessment and risk-adjustment in orthopaedics. With the government mandating it and the public demanding it, the value-era in medicine is here to stay.

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