Impact of Opioid Dependence on Outcomes following Total Shoulder Arthroplasty

Gabriel Thomas Brandner, Alexander Stefano Guareschi, Josef Karl Eichinger[1], Richard J Friedman[1]
[1]Medical University of South Carolina

INTRODUCTION:
The opioid epidemic is a well-established problem encountered in orthopaedic surgery in the United States. Evidence in lower extremity total joint arthroplasty and spine surgery suggests a link between chronic opioid use and increased expense and rates of surgical complications. The purpose of this study is to study the impact of opioid dependence (OD) on the short-term outcomes following primary total shoulder arthroplasty (TSA).
METHODS:
A total of 58,975 patients undergoing primary anatomic and reverse TSA were identified using the National Readmission Database from 2015 to 2019. Preoperative opioid dependence status was used to divide patients into two cohorts, with 2,089 patients being chronic opioid users or having opioid use disorders. Preoperative demographic and comorbidity data, postoperative outcomes, cost of admission, total hospital length of stay (LOS), and discharge status were compared between the two groups. Multivariate analysis was conducted to control for the influence of independent risk factors other than OD on postoperative outcomes.
RESULTS:
Compared to nonopioid dependent patients, OD patients undergoing TSA had higher odds of postoperative complications including any complications within 180 days (odds ratio [OR] 1.4 , 95% confidence interval [CI] 1.3–1.7), readmission within 180 days (OR 1.2, 95% CI 1.1–1.5), revision within 180 days (OR 1.7, 95% CI 1.4–2.1), dislocation (OR 1.9, 95% CI 1.3–2.9), bleeding (OR 3.7, 95% CI 1.5–9.4), and gastrointestinal complication (OR 14, 95% CI 4.3–48). Total cost ($20,741 vs. $19,643), LOS (1.8 ± 1.8 days vs. 1.6 ± 1.7 days), and likelihood for discharge to another facility or home with home healthcare (18 vs. 16% and 23% vs. 21%, respectively) were higher in patients with OD.
DISCUSSION AND CONCLUSION:
Preoperative opioid dependence was associated with higher odds of postoperative complications, rates of readmission and revision, costs and healthcare utilization following TSA. Efforts focused on mitigating this modifiable behavioral risk factor may lead to better outcomes, lower complications, and decreased associated costs.