Risk Factors for Early Return to Care following Same-Day Discharge Primary Shoulder Arthroplasty
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INTRODUCTION: Utilization of shoulder arthroplasty (SA) in the same-day setting is increasing. Previous studies examining the overall safety and related patient satisfaction of this approach have found comparable results to inpatient stay, but some patients still have returns to care in the early postoperative period. Identifying these patients in advance could facilitate the development of strategies to mitigate potentially preventable returns to improve patient care and reduce costs. Therefore, we sought to identify risk factors for early return to care following same-day discharge after primary SA.

METHODS: Data from a United States healthcare system’s SA registry was used to conduct a cohort study. Patients aged 18 years and older who underwent a primary SA, including total shoulder arthroplasty (TSA), reverse TSA, and hemiarthroplasty, and were discharged on the same day were identified (2009-2019). One patient who expired prior to discharge and 5 patients who were discharged against medical advice were excluded. The outcome of interest was return to care, defined as an emergency department (ED) only visit or in-hospital readmission within 1, 2, and 7 days of the discharge date. Factors associated with return to care in univariable logistic regression with p<0.1 were included in the final multivariable model. A p<0.05 was the threshold for statistical significance in the final multivariable model; odds ratios (OR) and 95% confidence intervals (CI) are presented. Factors evaluated included age, body mass index, sex, race/ethnicity, smoking status, American Society of Anesthesiologist’s classification, Elixhauser medical comorbidities, fracture history, preoperative opioid use, surgical indication, procedure type, continuous block, operative room start time, operative time, prior surgeon same-day procedure volume, prior facility same-day procedure volume, and discharge status.

RESULTS: The study cohort included 2614 same-day discharge shoulder arthroplasties performed by 86 surgeons at 31 healthcare centers. Of the same-day shoulder procedures, 74 (2.8%), 115 (4.4%), and 221 (8.5%) patients returned to the ED or were readmitted within 1, 2, and 7 days after discharge, respectively. Patients with a history of peptic ulcer disease/bleeding (OR=5.77, 95% CI=1.54-21.52) had a higher likelihood of returning to care within 1 day of same-day discharge while procedures performed at hospitals with a higher volume of same-day shoulder arthroplasty procedures (OR=0.42, 95% CI=0.20-0.92) had a lower likelihood of return. Patients with a history of psychoses (OR=1.83, 95% CI=1.09-3.10) and valvular disease (OR=2.06, 95% CI=1.02-4.16) had a higher likelihood of return when looking within 2 days. Those with an operative time longer than 90 minutes (OR=0.41, 95% CI=0.22-0.80) and hospitals with a higher volume of same-day procedures (OR=0.48, 95% CI=0.25-0.93) had a lower likelihood of returns within 2 days. No factor evaluated independently associated with return to care in the multivariable model when extending out to a ≤7-day window (Table).

DISCUSSION AND CONCLUSION: Less than ten percent of patients in a large integrated healthcare system experience an unplanned return to care within one week of same-day discharge SA. Using data from a SA registry, we did not find any factors that were consistently associated with a higher likelihood of early returns to care at all time frames evaluated. However, patients with a history of peptic ulcer disease/bleeding, psychoses, or valvular disease may have a higher likelihood for return to care in the first two postoperative days, while hospitals with a higher same-day shoulder arthroplasty volume have a lower likelihood of patients with early returns. Further study is needed to validate the risk factors observed.