Total Shoulder Arthroplasty Amongst Medicare Patients in the Ambulatory Surgery Center: A Retrospective Review on 90-Day Complications

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INTRODUCTION:
Studies have shown the safety of outpatient total shoulder arthroplasty (TSA) in the ambulatory surgery center (ASC); however, no such study exists specifically examining a Medicare population of patients. Until recently, all TSAs among Medicare patients were required to be completed in a hospital setting. The purpose of this study was to compare the intraoperative and 90-day episode of care complication profile amongst Medicare patients undergoing reverse (rTSA) or anatomic (aTSA) total shoulder arthroplasty at a freestanding ambulatory surgery center to those of Medicare patients undergoing TSA in the inpatient hospital setting and patients undergoing TSA at a free-standing surgery center with commercial insurance. Our hypothesis is no difference between cohorts would be seen.
METHODS: Our institution's records were queried for all patients undergoing rTSA or aTSA from January 1, 2018, through December 31, 2022. Those who completed 90-day follow-up were included. Three cohorts of patients were identified: 1) all Medicare patients undergoing TSA in an ASC (n=90), 2) an age and American Society of Anesthesia (ASA) score best match1:1 cohort of Medicare patients undergoing shoulder arthroplasty in the hospital (n=90), and 3) all privately insured patients undergoing TSA in an ASC (n=215). A total of 395 patients met inclusion for analysis. Surgical complications, postoperative complications, hospital (re)admissions, and revisions were identified during the 90-day postoperative period. We calculated the risk ratio for within 90-day postoperative complication development among Medicare ASC patients compared to other cohorts. All statistical models were adjusted for surgical age, sex, race, body mass index, and American Society of Anesthesiologist (ASA) score.

RESULTS:
The mean age of the patients was significantly older in the Medicare ASC cohort (mean 72.79 years (y), 95% confidence interval [CI]: 71.74, 73.84) and Medicare inpatient cohort (73.01y [95% CI]: 71.97, 74.05) compared to the privately insured ASC cohort (59.45 y [95% CI] 58.32, 60.59) ($p<0.001$). Overall, for all groups, there were 34 (8.6%) complications that occurred within 90-days. There was one urgent hospital transfer in the privately insured ASC cohort and none in the Medicare ASC cohort. There were three revisions and four re-admissions within the study follow-up period. The overall complication rates for each group was not significantly different: 10.0% for Medicare ASC, 12.2% for Medicare inpatients, and 6.98% for privately insured ASC (p-value: 0.322). The risk ratio for incidence of within 90-day postoperative complications for the Medicare ASC patients was 0.98 (95% CI: 0.40, 2.38) compared to Medicare inpatients, and 1.15 (95% CI: 0.40, 3.36) compared to privately insured ASC patients. The risk ratio for incidence of within 90-day postoperative complication for the ASC patients (Medicare and privately insured) was 0.66 (95% CI: 0.31, 1.42) compared to Medicare inpatients. There was no significant increase in risk of complications amongst the Medicare ASC patients compared to either cohort regardless of surgical age, sex, BMI, or ASA score.
DISCUSSION AND CONCLUSION:
Medicare ASC patients undergoing rTSA or aTSA had a similar postoperative complication risk ratio in the global period compared to Medicare inpatients and commercially insured ASC patients. Our findings suggest that TSA can be performed safely in the free-standing ASC setting for appropriately selected Medicare patients.