Anatomic and Reverse 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 shoulder procedures in the ambulatory surgery center (ASC) including anatomic (aTSA) and reverse (rTSA) total shoulder arthroplasty; however, no such study has looked specifically at a Medicare cohort of patients undergoing shoulder arthroplasty. Until recently, all TSA procedures among Medicare patients were required to be completed in a hospital setting. This restriction has been lifted in response to COVID and the adoption of the CMS "Hospital Without Walls" program. The purpose of this study was to determine the intraoperative and within 90-day postoperative complication risk amongst Medicare patients undergoing aTSA or rTSA at a freestanding ambulatory surgery center.
METHODS:
Our institution's records were queried for all patients undergoing aTSA or rTSA from January 2018 to January 2022. Two hundred and fifty-seven patients met inclusion criteria. Three cohorts of patients were identified: Medicare patients in an ASC undergoing shoulder arthroplasty (n=25), an age and ASA matched 3:1 cohort of Medicare patients undergoing shoulder arthroplasty in a hospital (n=75), and all commercially insured patients undergoing shoulder arthroplasty in an ASC (n=157). Surgical complications, postoperative complications, hospital re-admissions, and revisions were identified during the 90-day postoperative period. We used generalized linear models with a log link and a binomial error distribution to calculate the risk ratio for within 90-day complication development among Medicare ASC patients compared to other cohorts. All statistical models were adjusted for surgical age, sex, race, body mass index (BMI), and American Society of Anesthesiologists (ASA) score.
RESULTS:
The mean age of the patients was 64.54 years, mean BMI was 31.88 kg/m^2. Of the patients, 45.53% were female, 85.60% were Caucasian, and 14.01% were African American. Overall, there were 20 (7.78%) within 90-day postoperative complications. There were no urgent hospital transfers in either ASC cohort and no hospital admissions within 90 days in the Medicare ASC cohort. The incidence of within 90-day complications was 8% (2) for Medicare ASC patients, 10.67% (8) for Medicare inpatients, and 6.37% (10) for commercially insured ASC patients. The incidence of re-operation was 4% (1) for Medicare ASC patients, 1.33% (1) for Medicare inpatients, and 1.27% (2) for commercially insured ASC patients. The incidence of within 90-day hospital re-admissions was 2.67% (2) for Medicare inpatients and within 90-day hospital admissions was 0.637% (1) for commercially insured ASC patients. The risk ratio for incidence of within 90-day complications for the Medicare ASC patient was 0.89 compared to Medicare inpatients, and 1.33 compared to commercially insured ASC patients. The risk ratio for incidence of within 90-day complications for the ASC patient (Medicare and commercially insured combined) was 0.68 compared to Medicare inpatients. None of these risk ratio values were statistically significant, thus, no increase in risk of complications within 90 days amongst the Medicare ASC patients compared to either cohort regardless of surgical age, sex, race, BMI, or ASA score was identified.
DISCUSSION AND CONCLUSION:
Medicare ASC patients undergoing aTSA or rTSA had a similar within 90-days complication risk compared to Medicare inpatients and commercially insured ASC patients. Our findings suggest that shoulder arthroplasty for Medicare patients can be implemented safely in ASC settings.