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Medicare Advantage in Soft Tissue Sarcoma May Be Associated With Worse Patient Outcomes

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Background: Medicare Advantage healthcare plans often require authorization for surgery and imaging that may result in delays in specialty care. Given the complexity of soft tissue sarcoma (STS) treatment and risk of significant complications, there is evident need for further analysis into whether or not managed Medicare plans impact patient outcomes. This study aims to compare the outcomes of patients who underwent STS resection based on enrollment in either traditional Medicare (TM) or Medicare Advantage (MA) plans.

Methods: The Premier Healthcare Database was utilized to identify all patients ≥ 65 -years-old who underwent surgery for resection of an upper or lower extremity STS from 2015-2020. These patients were then subdivided based on their Medicare enrollment status (i.e. TM or MA). Patient characteristics, hospital factors, comorbidities were recorded for each cohort. Univariate analysis was performed to assess the 90-day risk of postoperative complications. Multivariate analysis controlling for patient age and sex, as well as demographic and hospital factors found to be significantly different between the TM and MA cohorts, was utilized to account for potential confounders.

Results: From 2015-2020, a total of 2,195 patients underwent resection of SRS. Of these, 1,296 (59.0%) had TM coverage, 652 (29.7%) had MA coverage, and 247 (11.3%) had non-Medicare insurance coverage. There was a statistically significant difference in the prevalence of 2 of the 30 comorbidities analyzed, congestive heart failure and obesity, between the cohorts. Though the prevalence of both of these comorbidities was higher in the MA group (9.66% vs. 7.10% and 4.60% vs. 2.85%, respectively), the absolute differences were small (range: 2.56% and 1.75%, respectively). After controlling for confounders, MA was associated with higher odds of surgical site infection (adjusted odds ratio [aOR] 1.48, 95% CI: 0.73-2.99, $p=0.272$), sepsis (aOR=1.60, 95% CI: 0.86-2.95, $p=0.137$), deep vein thrombosis (aOR=1.32, 95% CI: 0.60-2.88, $p=0.490$), seroma (aOR=1.29, 95% CI: 0.21-7.76, $p=0.784$), urinary tract infection (aOR=1.38, 95% CI: 0.79-2.79, $p=0.334$), and mortality (aOR=2.02, 95% CI: 0.87-4.69, $p=0.100$). However, in this study, these were not observed to be statistically significant.

Conclusion: The magnitude of the odds ratios observed suggest MA coverage may be associated with increased risk of multiple postoperative complications, including mortality, compared to TM coverage. Though the results presently observed did not reach statistical significance, we believe this is likely secondary to sample size limitations. Additional research with higher power, such as through multi-institutional collaborations, is necessary to better assess the relationship between Medicare plan subtype and outcomes for this high-risk patient population.