Total Ankle Arthroplasty: Comparing Perioperative Outcomes When Performed at an Orthopaedic Specialty Hospital versus an Academic Teaching Hospital

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Introduction/Purpose: The number of total ankle arthroplasties (TAA) performed in the United States has risen significantly in recent years. Additionally, utilization of an orthopaedic specialty hospital (OSH) to treat healthy patients undergoing elective surgery is becoming more common. The effect of OSH utilization on post-operative outcomes following TAA has yet to be investigated. The purpose of this study is to compare post-operative outcomes following TAA at an OSH when compared to a matching population of patients undergoing TAA at an academic teaching hospital (ATH).

Methods: We identified all primary, atraumatic TAA from January 2014 to December 2014 at the OSH and January 2010 to January 2016 at the ATH. Each OSH patient was manually matched to a corresponding ATH patient by clinical variables (age adjusted Charlson comorbidity index [AACCI], 17 individual comorbidity categories, and body mass index [BMI] and demographic variable (age, gender, and insurance type). Matching was performed in a blinded fashion to outcomes. Outcomes analyzed were LOS, 30-day readmissions, mortality, reoperation, and inpatient rehabilitation utilization.

Results: There were 40 TAA patients in each group. OSH and ATH patients were similar in age (66.7 versus 66.8 yo, p=0.95), BMI (both 28.4, p=1.00), age-adjusted Charlson Comorbidity Index (both 3.3, p=1.00), and gender (both 45.0% male, p=1.00). Average LOS for TAA at the OSH was 1.28+/-0.51 compared to 2.03+/-0.89 (p<0.001) at the ATH. No OSH patients were readmitted within 30 days, compared to 2 ATH (5.0%; p=0.15). Two OSH patients (5.0%) and two ATH patients (5.0%; p=1.00) required reoperation. There were no mortalities in either group. No OSH patients utilized inpatient rehabilitation compared to 3 ATH patients (7.5%; p=0.078). When excluding patients utilizing inpatient rehabilitation, patients at the OSH still demonstrated significantly lower LOS (1.28+/-0.51 vs 1.81+/-0.69 days, p<0.001). No OSH patients required transfer.

Conclusion: Primary TAA performed at an OSH had significantly shorter LOS when compared to a matched patient treated at an ATH with no significant difference in readmission or reoperation rates. Additionally, patients who had their procedure performed at an OSH utilized inpatient rehabilitation less frequently than those at an ATH. This study suggests that performing TAA at an OSH offers a potential source of significant healthcare savings.
Figure 1: LOS by Discharge Day for Matched Cohorts from an OSH Compared to an ATH