

Recent Trends in Utilization of Total Ankle Arthroplasty and Ankle Arthrodesis

Abstract

Total ankle arthroplasty (TAA) and ankle arthrodesis (AA) are surgical treatment options for end-stage ankle arthritis. Providers could benefit from having a current understanding of the overall trends of these procedures as both are used frequently. Thus, the objective of the current study is to assess the trends in utilization, patient characteristics and outcomes after TAA and AA. The PearlDiver Mariner database was used to capture patient characteristics and outcomes related to 2,494 patients undergoing TAA and 5,901 undergoing AA patients between 2010 and 2018. The incidence of TAA increased over the course of the study period ($p < 0.001$) while the incidence of AA decreased ($p = 0.045$). Length of stay (LOS) following AA significantly increased (3.02 vs 4.50, $p < 0.001$) while LOS following TAA significantly decreased (2.78 vs 1.65, $p = 0.004$). Furthermore, incidence of infections significantly increased following both procedures (AA 1.7% vs 6.6%, $p = 0.004$; TAA 0.8% vs 2.7%, $p = 0.008$). When compared together, patients undergoing TAA in 2018 had a significantly shorter LOS (1.65 vs 4.50, $p < 0.001$), risk of major complications (1.5% vs 3.9%, $p = 0.042$), any medical complication (7.1% vs 14.9%, $p = 0.004$), and infection (2.7% vs 6.6%, $p = 0.011$) compared to AA. The present study demonstrates increased utilization of TAA for treatment of end-stage ankle arthritis compared to AA in recent years. Over the time period of this study, infection rate has increased and LOS has decreased for TAA while both infection rate and LOS have increased for AA.