In-patient Trends And Complications After Total Ankle Arthroplasty In The United States.

Hanbing Zhou¹, Joshua Shaw¹, Abhay Patel¹, Xinning Li, M.D.².
¹University Of Massachusetts, Worcester, MA, USA, ²Boston Medical Center, Boston, MA, USA.

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Introduction: Due to improvement in overall prosthesis designs and surgical methods, there have been increasing numbers of total ankle arthroplasty performed with encouraging intermediate results. While European registries have been able to perform long term follow-ups and analysis on total ankle arthroplasty patients, majority of the US studies have been based on experiences at a single institution. There is currently limited data on the recent trends of total ankle arthroplasty. The purpose of our study is to evaluate the in-patient demographics, complications and readmission rate in patients after total ankle arthroplasty at academic medical centers in United States.

Methods: We queried the University Healthsystems Consortium (UHC) administrative database from 2007 to 2011 for patients who underwent total ankle arthroplasty by ICD-9 procedure code 81.56. A descriptive analysis of demographics was performed, followed by a similar analysis of patient clinical benchmarks, including hospital length of stay, hospital direct cost, in-hospital mortality, and 30-day readmission rates.

Results: Our cohort consisted of 2,361 adult patients who underwent a total ankle arthroplasty at 95 different academic medical centers across the country during the specified time period. The annual surgical volume for individual surgeons who performed this procedure was 5 cases +/- 3. The cohort was comprised of 47% male and 53% female patients. The majority of the cohort 2,091 (88.5%) was white, 85 (3.6%) were black, 23 (1%) were Hispanic, and 162 (6.8%) other. The mean age of the cohort was 62 years old +/- 11. At least 70% of the cohort had one or more chronic medical conditions. The mean LOS for the cohort was 2.2 days +/- 1.26. The mean total direct cost for the hospital was $16,000 +/- 7,000 per case. 83% of the cohort had private insurance, 15% had Medicare, and 2% had Medicaid. In hospital mortality was less than 1% for the cohort during their index hospitalization. Inpatient complication rate include: DVT 2.3%, re-operation 0.7%, and infection 3.2%. There was a readmission rate of 2.6% within the first 30 days from the time of discharge.

Discussion: Total ankle arthroplasty in the United States is a relatively safe procedure with low overall complication rates including infection (3.2%), DVT (2.3%), and re-operation (0.7%). Length of stay after the procedure is around 2 days with a total direct hospital cost of $16,000 +/- 7,000 and 2.6% readmission rate (30 days). Majority of the patients were Caucasian and had private insurance.

Significance: Total ankle arthroplasty in the United States is a relatively safe procedure with low overall complication rates including infection (3.2%), DVT (2.3%), and re-operation (0.7%). Majority of the patients were Caucasian and had private insurance.

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