Successful Arthrodesis of the First Metatarsophalangeal Joint in Patients with Inflammatory and Non-inflammatory Arthritis: A Comparative Analysis

Foot & Ankle Category: Midfoot / Forefoot

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Introduction
Arthrodesis of the 1st MTP joint has long been a reliable treatment option for end stage arthritis due to Osteoarthritis (OA) or Rheumatoid arthritis (RA). The pathophysiology of these two diseases is different yet both have had relatively high success rates when arthrodesis was indicated. The purpose of this study was to compare a number of demographic and clinical variables between patients with 1st MTP osteoarthritis versus rheumatoid arthritis when arthrodesis was indicated.

Methods
Our institution looked at 61 1st MTP fusion procedures. Thirty seven procedures for the treatment of OA and twenty four procedures for the treatment of RA. A non-parametric Wilcoxon test was utilized to compare demographic and clinical variables between the two groups. Demographic variables included age, sex, body mass index, smoking status, and diabetes status. Clinical variables included fusion rate, time to fusion, and fixation type.

Results
Those subjects with RA had a shorter time to fusion as well as better fusion rates compared to those with OA; however, the differences were not significant. The only demographic or clinical variable that reached significance was age (p-value 0.055). The mean age at time of surgery for OA and RA patients was 57.6 and 64.62 years old, respectively.

Conclusion
End stage Osteoarthritis and Rheumatoid arthritis remain two indications for 1st MTP fusion. These two diseases have different pathological processes, however, other than age, there appears to be no statistical differences in other demographic variables as well as fusion rates and times to fusion.