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First metatarsophalangeal joint arthrodesis using a minimally invasive technique: preliminary results

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ABSTRACT

Introduction: Metatarsophalangeal joint arthrodesis (MTPA) is a surgical technique indicated for the treatment of hallux rigidus with advanced arthrosis and for rheumatic diseases. This classic surgery is widely used and effective; however, the use of a minimally invasive technique remains mostly unknown.

Objective: To present the outcome of MTPA performed using a percutaneous technique.

Methods: Hallux MTPA was performed in 8 feet from 4 patients with hallux rigidus and 4 with rheumatoid arthritis, with a higher prevalence of women than men (5 vs. 3) and a mean postoperative follow-up time of 1.5 years. The outcomes were evaluated using a modified version of the American Orthopedic Foot and Ankle Society (AOFAS) questionnaire and the union time.

Results: All patients who underwent surgery showed improvements in pain and arthrodesis union at approximately 8 weeks. The mean AOFAS score increased to 85 points (of a total of 90 possible points). There were no complications, such as infection, nonunion or persistent pain.

Conclusion: The percutaneous technique of hallux MTPA was effective, with satisfactory outcomes, reduced surgical invasiveness, immediate walking, rapid union with “arthrodesis take” and significant improvement in pain. However, a larger sample is required to confirm the outcomes.

Keywords: Arthrodesis; Minimally invasive surgical procedures; Hallux/surgery.