

First Metatarsophalangeal Arthrodesis for Treatment of Hallux Valgus with Severe Metatarsus Adductus Deformity

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Introduction/Purpose: The surgical treatment of hallux valgus with severe metatarsus adductus deformity can be challenging. This study aims to investigate the clinical and radiologic outcomes of first metatarsophalangeal arthrodesis in treating this complex deformity.

Methods: Between Jun 2009 and Jun 2013, 15 consecutive cases of hallux valgus with severe metatarsus adductus [metatarsus adductus angle, $MAA > 25^\circ$ (modified Sgarlato method)] received first metatarsophalangeal arthrodesis for correction with a dorsal plate and a lag screw. The clinical outcome of these patients (average age of 63.1 years) was evaluated by means of the American Orthopaedic Foot and Ankle Society (AOFAS) Hallux MTP-IP Scale and ankle pain on the visual analogue scale (VAS). Radiological imaging included hallux valgus angle (HVA) and 1st intermetatarsal angle (IMA).

Results: All these 15 patients were available for follow-up at a mean of 12.7 months. The average postoperative AOFAS Hallux MTP-IP Scale 12 months after surgery was 88.6 (compare with 60.8 preoperatively). The mean visual analog scale score decreased from 5.51 ± 1.53 preoperatively to 0.98 ± 0.98 at the latest follow-up. All the metatarsophalangeal joints got complete fused without delayed fusion. The HVA improved from 45.2° preoperatively in average to 17.3° postoperatively. No deformity recurrence was observed by the time of the latest follow-up.

Conclusion: first metatarsophalangeal arthrodesis is a simple, reasonable and reliable option for the treatment of hallux valgus with severe metatarsus adductus deformity, especially for elderly patients with degenerated symptomatic metatarsophalangeal joint.

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