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A retrospective review of dorsal locking compression plating for hallux metatarsophalangeal joint arthrodesis



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Abstract

Purpose: In this retrospective study the primary aim was to radiographically evaluate the arthrodesis rate of the hallux metatarsophalangeal joint (MTPJ) using a dorsal compression plate without the use of additional fixation devices. The secondary aim was to assess patient satisfaction by using the self-reported foot and ankle score (SEFAS), comparing pre and post operative scores.

Methods: 32 patients (38 feet) who underwent hallux metatarsophalangeal joint arthrodesis using only a dorsal compression plate between January and December 2016 were assessed. Standardised weight bearing radiographs of the foot were taken at six weeks postoperatively to assess for union. Patient satisfaction was evaluated by comparing self-reported foot and ankle score pre and post operatively.

Results: 27 patients (32 feet) met the inclusion criteria for this study. Five of these patients had bilateral hallux metatarsophalangeal joint arthrodesis surgery. Of these, 87.5% were female and 12.5% were male. The mean age at the time of operation was 62 years (SD = 10.4). Radiographic union was seen in 29 (90.6%) feet at six weeks post surgery. The self-reported foot and ankle score demonstrated significant improvement from a preoperative score of 29 to a postoperative score of 41 at three year follow up.

Conclusion: The sole use of a dorsal compression plate demonstrated a union rate of 90.6% and an improved SEFAS score postoperatively, which yielded good to excellent results in patients who had undergone arthrodesis of the hallux metatarsophalangeal joint. These results are comparable to those where the gold standard for hallux metatarsophalangeal joint arthrodesis has been used. The use of the dorsal compression plate eliminates the need for an additional compression screw thus decreasing costs of implants, theatre time and x-ray exposure.

Level of evidence: IV