Rheumatoid forefoot reconstruction in the non-rheumatoid patient
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Introduction/Purpose: Residual pain and recurrent deformity following forefoot surgery can cause significant disability. In patients with rheumatoid arthritis, first metatarsophalangeal (MTP) joint arthrodesis with lesser metatarsal head resection – often referred to as a rheumatoid forefoot reconstruction – has been shown to be a reliable operation for pain relief and deformity correction. Limited data, however, has been published on outcomes of the same forefoot reconstruction operation in the non-rheumatoid patient. Here, we review our experience with this procedure in patients without rheumatoid disease, hypothesizing improved clinical and radiographic outcomes following surgery.

Methods: Following chart review and surveying billing codes, we retrospectively identified patients from 2007-2015 without a diagnosis of rheumatoid arthritis who underwent first MTP arthrodesis with lesser metatarsal head resection (rheumatoid forefoot reconstruction). Phone surveys were then conducted to assess clinical outcomes including pain and satisfaction scores. Preoperative and postoperative radiographs were reviewed for 1, 2 intermetatarsal angle (IMA), hallux valgus angle (HVA), 2nd MTP angle (MTP-2), and lesser MTP alignment (in both sagittal and axial planes). Postoperative radiographs were also assessed for radiographic union.

Results: We identified 14 non-rheumatoid patients (16 feet) who underwent forefoot reconstruction – of those, 13 patients (15 feet) were successfully contacted via follow-up phone survey. Mean postoperative follow up was 42.3 (range: 12-76) months from surgery to phone interview. Mean postoperative satisfaction scores were 9.1 (out of 10), and no patients required further surgery after forefoot reconstruction. Pain scores significantly decreased from 6.2 preoperatively to 2.0 postoperatively (P<.001). Radiographic parameters (IMA, HVA, MTP-2, and lesser MTP alignment in the sagittal plane) all improved with surgery (P<.05). All 16 feet achieved union of the first MTP arthrodesis.

Conclusion: With decreased pain, high satisfaction rates, and improved radiographic parameters, first MTP arthrodesis coupled with metatarsal head resection (rheumatoid forefoot reconstruction) is a viable surgical option for non-rheumatoid patients who have failed prior attempts at forefoot reconstruction or have chronic forefoot pain with deformity.