Akin osteotomy as an adjunct to hallux MTPJ fusion
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Introduction/Purpose: It is not uncommon to note residual valgus at the hallux interphalangeal joint when performing a hallux MTPJ fusion. On occasion, despite optimum positioning of hallux MTPJ for fusion, we found that in some cases the hallux was still abutting the second toe. We noted that these cases had either a high hallux interphalangeous valgus angle or the proximal phalanx had a shorter, concave lateral border due to eccentric wear. These two variables were difficult to correct despite optimum positioning of the hallux MTPJ. Consequently the hallux abuts the second toe causing irritation. We have used Akin osteotomy as an adjunct to hallux MTPJ fusion to address this intraoperative problem

Methods: Between 2013 to 2016 this technique was utilised in 16 patients in whom residual hallux valgus interphalangeus was noted once the hallux MTPJ was stabilised in the appropriate position. We used two 4.0mm AO cannulated partially threaded screws inserted in a crossed configuration for MTPJ fusion and a 8mm x 90 degree varisation staple for the Akin osteotomy. The Akin osteotomy was performed in the mid to distal diaphyseal region of the proximal phalanx to avoid the screw position. Postoperatively, patients were given a toe spica plaster cast and were advised to walk in a heel weight bearing wedge shoe for six weeks.

Results: Despite the osteotomy not being in the metaphyseal region, we have not encountered any immediate post-operative complications. We accept that this technique may not be suitable when using plates and screws for fusion but would be suitable for use with screws or staples. We have not encountered any postoperative complications. All hallux MTPJ joints have fused and Akin osteotomies have healed uneventfully

Conclusion: This technique has not been reported before. Akin osteotomy is commonly used as an adjunct to corrective hallux valgus surgery. It is a relatively quick and reproducible technique with minimal incidence of complications. We suggest that this technique be considered when carrying out a hallux MTPJ fusion, although may not be required in all cases.

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