

Minimally invasive surgery in the correction of recurrent hallux valgus: a case series with 2 year followup

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Introduction: Recurrent deformity following surgical correction remains a complex and technically demanding condition. This study aimed to evaluate the clinical and radiographic outcomes of minimally invasive surgery (MIS) in patients undergoing revision procedures for recurrent hallux valgus (HV).

Methods: This retrospective case series included 33 feet that underwent minimally invasive revision surgery using either the third-generation minimally invasive Chevron-Akin (MICA) or the fourth-generation Metaphyseal Extra-Articular Transverse and Akin osteotomies (META), following failure of a previous HV correction performed by open or MIS. Clinical outcomes were assessed using the Manchester-Oxford Foot Questionnaire (MOXFQ), the visual analog scale (VAS) for pain, and patient satisfaction. Radiographic parameters and complications were recorded and statistically analyzed using R software.

Results: Both techniques proved effective in angular correction, with significant reductions in the hallux valgus angle (HVA) and intermetatarsal angle (IMA) ($p < 0.001$), as well as in bone and soft-tissue forefoot width ($p < 0.05$). Significant improvements were also observed in all three MOXFQ domains ($p < 0.001$) and in VAS scores ($p < 0.001$). Subgroup analysis revealed no statistically significant differences between MICA and META in either radiographic or clinical outcomes related to pain and function ($p > 0.05$).

Conclusion: Third- and fourth-generation minimally invasive surgical techniques have proven effective in correcting radiographic parameters and improving pain and functional scores in patients undergoing revision for recurrent hallux valgus, with a low rate of complications.

Keywords: Hallux valgus; Osteotomy; Minimally invasive surgical procedures.

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