

Hallux Flexion Deformity and Entrapment of Flexor Hallucis Longus Tendon After Open Reduction Internal Fixation of Ankle Fracture

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Introduction/Aim: Scar tissue formation is a common complication of open reduction internal fixation (ORIF) of ankle fractures. In this case study, we document a patient status post ORIF of an ankle fracture leading to hallux IPJ contracture due to scar tissue formation along the posterior ankle. Our aim in treatment was to provide an efficient and definite surgical option that would relieve pain and preserve function.

Methods: Our patient is a 59-year-old female who presented with hallux IPJ flexion deformity secondary to scar entrapment of the flexor hallucis longus (FHL) tendon. To correct this deformity, two surgical approaches have been described: release of adhesions at the fracture site, and midfoot lengthening of the FHL. We elected a different approach, which was to release the FHL tendon proximal to the Master Knot of Henry and tenodese the FHL and FDL. In order to assess the clinical utility of this different approach, we compared this patient's outcomes in terms of relief of pain and preservation of function to other cases who underwent more traditional approaches.

Results: FHL tenotomy proximal to Knot of Henry and tenodesis of FHL and FDL resulted in resolution of pain, rectus hallux, and maintained function of hallux and lesser digits. Patient was present for followup at 1 month, 3 months, 6 months, and 1 year with no residual functional deficits, and improvement of pain leading to cessation of pain medication.

Conclusion: ORIF of ankle fractures is commonplace with scar formation as a possible complication. Here, we presented continued flexion of the hallux secondary to scar formation and entrapment of the FHL tendon. Commonly described surgical procedures leave room for future complications and additional procedures. This case showed that release of the FHL proximal to the Master Knot of Henry with tenodesis of the FHL and FDL resulted in a return of hallux function, relief of pain, and prevented recurrence of the same injury.