

A Case Report Of First Ray Reconstruction With Fibula Strut Autograft For First Metatarso-phalangeal Joint Destruction Secondary To Gouty Arthritis

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INTRODUCTION:

Chronic uncontrolled gouty arthritis often leads to extensive first metatarso-phalangeal joint destruction. We report 3-month outcome of a case that was reconstructed with autologous fibula strut graft for the significant bone loss.

REPORT:

A 30 years old gentleman neglected his gouty arthritis and developed extensive tophi in bilateral upper and lower limbs. His right foot first metatarso-phalangeal joint tophus prevented him from wearing protective footwear. At presentation, there were no signs of infection and the last gouty exacerbation was six months prior which was controlled after complying to Allopurinol and dietary restriction.

Dorso-medial elliptical incision around the ulcer was utilised to excise the tophus, in which it had destroyed sesamoids, proximal phalanx and distal third first metatarsal bone. There was no sign of infection and intra-operative sample culture was negative. Ipsilateral midshaft fibula was harvested. Chevron cut end-to-end was performed for the proximal part of donor and recipient. Dorsiflexion end-to-end oblique cut was performed for the distal part of donor and recipient for elevation hallux. These cuts were intended for maximum stable bone-to-bone surface contact. Mini plates with 2.0mm screw system were used for stabilisation due to their lower profile implants. At 3-month follow-up, proximal donor-recipient site showed union but distal donor-recipient had not united yet. His wound healed and there was no recurrence of tophus formation at the operative site.

The fibula strut graft could be fixed with an intramedullary pin¹. A tricortical iliac crest graft was an autograft option². Qin et al. reported 14 cases of bone transport technique which achieved average union of 11.2 weeks³.



Figure 1: Pre-operative pictures.



Figure 2: Intra and post-operative pictures.

CONCLUSION:

Fibula strut autograft is a reconstruction option for extensive first ray destruction secondary to gouty arthritis, in which, otherwise had a risk of amputation.

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