

A Modified Technique of Tight-rope for Correction of Hallux Valgus: A Case Report

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INTRODUCTION:

Hallux valgus(HV) is a forefoot deformity secondary to soft tissue tension-imbalance.¹ The complications related to 1st metatarsal bone(MTB) osteotomy are non-union, mal-angulation and shortening.¹

Therefore, an osteotomy-sparing technique using tight-ropes and buttons system minimizes the complications. One tight-rope is fixed proximally and one distally between the 1st and 2nd MTBs, reduces the intermetatarsal angle(IMA).¹ However, this technique doesn't directly correct the hallux valgus angle(HVA). The modified technique still uses 2 tight-ropes but the distal tight-rope further extends by crossing the 1st metatarsophalangeal joint(MTPJ) medially and anchors to proximal phalanx of 1st toe.² Thus, applies direct force on proximal phalanx for further HVA correction.²

REPORT:

A 45 years-old lady with flexible left hallux valgus underwent HV corrective surgery. The skin incisions were made over dorsum and medial aspect of left foot(Figure1). The adductor hallucis tendon and lateral capsule were released followed by bunionectomy and medial capsular imbrication.²

The bone tunnels were prepared transversely at midlevel of 1st and 2nd MTBs. The first tight-rope was inserted and anchored with buttons(Figure2). Then similar bone tunnels were prepared distally but added with an oblique tunnel created at proximal phalanx of 1st toe from the medial aspect of its base to midlevel at lateral aspect. The second tight-rope was inserted from 2nd MTB to 1st MTB, crossed the MTPJ medially to proximal phalanx of 1st toe and tightened with buttons to further correct the HVA(Figure2).² The HVA, IMA correction and tight-ropes passage aided by fluoroscopy and suture passer.



Figure 1: Skin incisions sites, A: Overlying 2nd MTB; B: Over medial aspect of foot

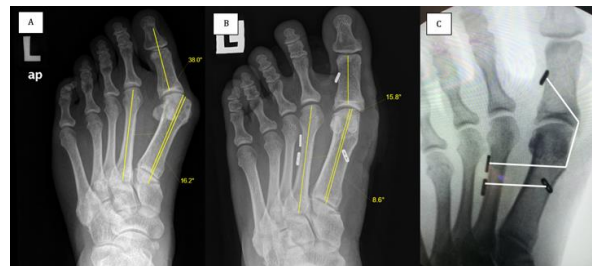


Figure 2: Radiographs
(a)pre-surgery, HVA(38°), IMA(16°)
(b)post-surgery, HVA(15°), IMA(8°)
(c)the tight-ropes' passages

CONCLUSION:

The modified technique of tight-rope crossing the 1st metatarsophalangeal joint corrects the hallux valgus deformity while sparing osteotomy and bigger incisions.

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