

Caught In The Crosshair - A Checkrein Deformity

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INTRODUCTION:

Checkrein deformity is a rare condition which is characterized by dynamic plantar flexion contracture of the interphalangeal joint (IPJ) and dynamic extension contracture of the metatarsophalangeal joint (MTPJ) of the big toe. The deformity increases with dorsiflexion of the ankle, and less with plantar flexion. It is due to tethering or entrapment of flexor hallucis longus (FHL) muscle or tendon. It is more common in distal tibia fracture. The aim of this case report is to describe a patient who underwent interlocking nail (ILN) for midshaft fracture of the left tibia and developed Checkrein deformity possibly due to prominent distal interlocking screw.

REPORT:

A 27 year old gentleman came to us with a checkrein deformity of the left hallux following an ILN tibia 2 years ago (Figure 1A and B). Radiograph showing a prominent distal antero-posterior screw (Figure 2). Patient was posted for surgery. Intra-operatively noted prominent screw tip is embedded in FHL muscle with muscle scarring and surrounding adhesions (Figure 2). Removal of screw and adhesiolysis of FHL muscle was inadequate to correct the deformity and hence proceeded with mid-foot FHL tendon release, augmentation to flexor digitorum longus (FDL) tendon. Pre- and post-procedure clinical findings as shown in Figure 1.

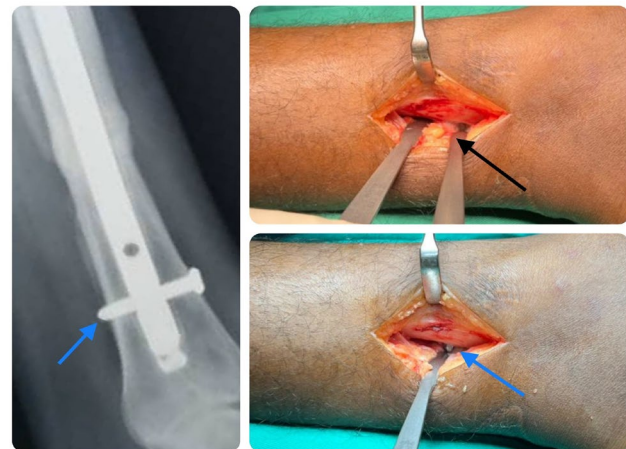
CONCLUSION:

Slight over-length screws as seen in this case are generally safe, but on rare occasions it can be sinister. Perhaps antero-posterior screw in distal tibia should be avoided if possible.

Figure 1: A and B showing Checkrein deformity; C and D showing post-operative correction.



Figure 2: Black arrow showing prominent screw embedded in FHL muscle and surrounding adhesion; Blue arrow showing screw tip after adhesiolysis.



REFERENCES:

1. Yuen CP, Lui TH. Adhesion of flexor hallucis longus at the site of a tibial-shaft fracture - a cause of a checkrein deformity. Foot Ankle Surg. 2015;21(1):e23-6.