

Isolated and Irreducible Fifth Metatarsophalangeal Joint Dorsomedial Dislocation in a Young Man with Two Weeks Old Trauma

Amit Sharma*

Consultant, Orthopaedics & Joint Replacement, Mumbai, India

Abstract

Fifth metatarsophalangeal joint dislocation is a rare injury. A young person presented with 2 weeks old dislocation of fifth metatarsophalangeal joint which was irreducible by closed methods. Open reduction was performed which resulted in good functional outcome at 3 months.

Keywords: Metatarsophalangeal joint; Injury; Dislocation

Introduction

Fifth metatarsophalangeal joint of foot is a small joint. Due to its highly stable construct, dislocations are uncommon. The usual mechanism of injury is forced hyperextension of the foot [1,2]. But if not treated adequately, this injury can cause difficulty in weight bearing and walking in normal gait [3].

Here, we assess such a case with examination, associated imaging and management with a good outcome.

Case Summary

A 16 years patient had an injury right foot while walking as his foot slipped into a drain followed by pain and swelling. After 2 weeks of over the counter medicines, the pain did not subside and the person started walking on foot everted, the case presented to the hospital where after examination, imaging of the foot was done.

Closed reduction was attempted under local anesthesia, which was unsuccessful. The patient was planned for open reduction under regional anesthesia. Dorsal approach was used to expose the joint. The joint capsule was open with a transverse incision and a longitudinal incision was used for volar plate to remove it from the joint. The reduction was achieved and stabilized with a k wire. Post-operative splintage was given for 4 weeks. The k wire was removed at 4 weeks and partial weight bearing was started. After 6 weeks, full weight bearing was started. The person had no issue of pain or swelling after 8 weeks of procedure. Follow up at 3 months post operatively was excellent with normal gait and asymptomatic walking.

Discussion

The MTP joint has a role in planter flexion of the foot just before toe off phase while walking [4]. Fifth metatarsophalangeal joint is small and stable joint less amenable to dislocations [3,4]. Most common dislocation is dorsal type. Mechanism of injury is commonly due to axial loading or high energy trauma. Fifth metatarsophalangeal joint has multiple ligaments like medial, lateral collateral ligament, dorsal and planter ligaments with additional support from tendons like the extensor digitorum longus [5,6]. The planter plate is broad, firm and ribbon like disc, smooth structure which gives gliding surface for flexor tendons [6,7]. Dislocation at the MTP joint occurs due to hyperextension force and the planter plate is mainly responsible for failure of closed reduction. MTP joint dislocation can be reduced by removing the planter plate from the MTP joint. Early active management of this dislocation results in very good functional outcomes.

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*Corresponding author: Amit Sharma, Consultant, Orthopaedics & Joint Replacement, Mumbai, India, Tel: 8427483227; E-mail: aks0505@gmail.com

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