

CASE REPORT

Four toes dislocation at the metatarsophalangeal joint

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SUMMARY. Dislocation of the four medial toes at the metatarsophalangeal joint (MTPJ) has not been previously reported. The patient was a 35-year-old man who sustained the injury in a motorcycle accident. Manual reduction was easily performed but maintenance of reduction was difficult. Ten years later, osteoarthritic changes at the MTPJs were present with severe limitation in activities of living.

INTRODUCTION

The metatarsophalangeal joint (MTPJ) consists of the concave articular surface of the proximal phalanx and the convex head of the metatarsal. It is stabilized by collateral ligaments at the plantar plate.

Only one case of dislocation of all MTPJs has been reported¹ but dislocation of four toes has not. Such a case is the subject of this case report.

CASE REPORT

A 35-year-old man received injuries when the motorcycle he was riding overturned. There were no signs of ischaemia but there was marked swelling and deformity at the MTPJs on the plantar side (Fig. 1). Radiographs revealed dorsal dislocation of four medial toes and a fracture of the neck of the fifth metatarsal (Fig. 2). While manual reduction was performed easily, the reduced position was difficult to maintain, thus requiring reduction-fixation. Kirschner's wires were used to maintain reduction of the dislocation and fracture of the fifth metatarsal (Fig. 3). Three weeks later the Kirschner's wires were removed and mobilization commenced. Partial weight bearing started 5 weeks after the injury and full weight bearing was allowed at 2 months. However, 10 years later the MTPJ wire degenerated (Fig. 4) and the patient had severe limitation on walking long distances and everyday activities, including heavy labour. The skin was atrophic but there was no evidence of peripheral neuropathy.



Fig. 1

DISCUSSION

Dislocation of all the toes has been reported only once.¹ The dislocation was accompanied by an open dislocation of Lisfranc's joint with fractures of the bases of the second and third metatarsal bones. This case was not an open dislocation and was without fracture dislocation of Lisfranc's joint. The mechanism of the injury is thought to be forced dorsiflexion.^{2,3} However, many cases of dislocation of the MTPJ have had fractures of metatarsal necks, diaphyses, fractures of cuneiform or cuboid bones at undislocated toes. This suggests that a dorsiflexion force in the direction of longitudinal axis of the foot is not the only mechanism, but there may also be an associated rotating force (Fig. 5).

Many cases of the dislocation of the MTPJ are usually reduced manually.^{4,5} Our case could be reduced manually, but the position was difficult to maintain, requiring fixation with Kirschner's wires.

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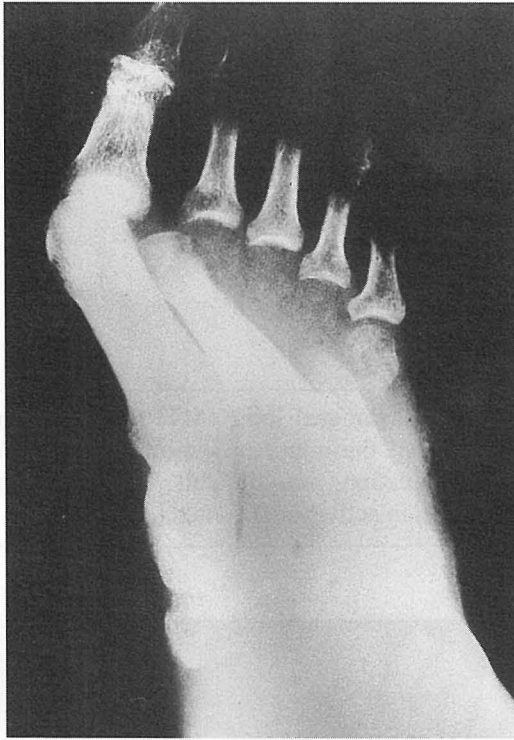


Fig. 2

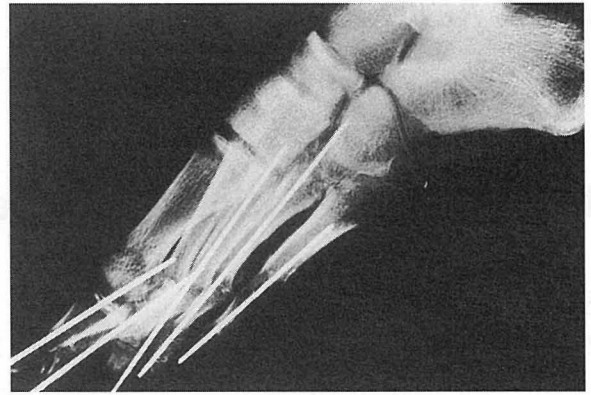


Fig. 3



Fig. 4

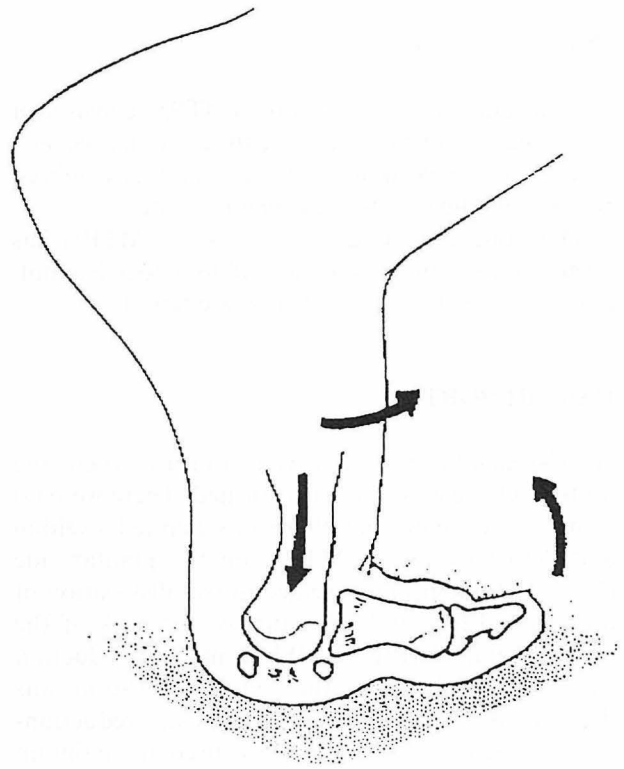


Fig. 5

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