

SIMULTANEOUS COMPLETE DISLOCATION OF CARPOMETACARPAL JOINT AND METACARPO-PHALANGEAL JOINT OF THUMB

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ABSTRACT

Simultaneous dislocation of two joints of a thumb is rare. We present a case of simultaneous dislocation of carpometacarpal and metacarpophalangeal joints of thumb. There are only few reported cases of similar injury pattern in the literature. He was treated with closed reduction for metacarpophalangeal joint dislocation and closed reduction and stabilization with Kirschner wire for carpometacarpal joint dislocation. After 4 months the functional results were satisfactory. We report this unusual mechanism of injury and its management.

Key words

Dislocation, Metacarpophalangeal joint, Carpometacarpal joint, Thumb.

INTRODUCTION:

Simultaneous dislocation of thumb metacarpal is a rare injury. It was first described in 1978 with good functional outcome.¹ We report a rare case of thumb metacarpophalangeal joint and carpometacarpal joint dislocation, including the mechanism of injury, symptoms and signs, treatment and final outcome.

CASE REPORT:

A fifty one year old man, right hand dominant, presented to our emergency department immediately after a fall from his bike on outstretched right hand and sustained a hyperextension injury to his right thumb. On examination, there was obvious clinical deformity of the first metacarpophalangeal joint with swelling and superficial abrasions over the thenar eminence. There was a palpable bony lump under the thenar eminence which could be moved in all direction and felt highly unstable. There was no neurological deficit. X-ray examination revealed isolated 1st metacarpophalangeal joint dislocation with dorsal dislocation of the 1st carpometacarpal joint (fig: 1).

Metacarpophalangeal joint was reduced in casualty under ring block but unable to maintain satisfactory reduction of

the carpometacarpal joint due to its highly unstable nature (fig: 2). The patient was taken to theatre following morning and under general anaesthesia, the carpometacarpal joint reduced and stabilised with one 2mm K-wire across the metacarpal bone into the carpal bone. Check x-ray was satisfactory (fig: 3). He was put in thumb spica cast for 4 weeks followed by range of movement exercises with physiotherapy. Patient was recently reviewed in our outpatient after one year and has gained full range of movement of his thumb with no disability.



Figure 1: Complete dislocation of carpometacarpal and metacarpophalangeal joint of thumb.



Figure 2: Reduced metacarpophalangeal joint with dislocated carpometacarpal joint of thumb.

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DISCUSSION:

The force that is required for dislocation is different for carpometacarpal joint (longitudinally directed force with metacarpal in slight flexion) than what is required for metacarpophalangeal joint (forced hyperextension of the joint).^{2,3} For both joints to dislocate simultaneously carpometacarpal joint has to dislocate first in order to fulfill the criteria and that's what we believe has happened to our patient.



Figure 3: Carpometacarpal joint reduced and stabilized with 2mm k-wire.

Previous reports suggested open reduction and fixation of carpometacarpal joint and the need to repair the ulnar collateral ligament.^{4,5, 6} In our experience acute injury to thumb metacarpal can be treated by closed reduction of metacarpophalangeal joint and by K-wire stabilization of carpometacarpal joint to avoid instability. A thumb spica cast for 4 weeks is enough to provide healing of the soft tissues and then mobilization of both joints with physiotherapy which is essential to provide good functional outcome.

To our knowledge, this is one of the early reports of metacarpophalangeal and carpometacarpal joint dislocation of thumb. This case illustrates, that if detected early and managed effectively a good functional outcome is achieved.

REFERENCES:

1. Moore JR, Web CA, Thompson RC. A complete dislocation of thumb metacarpal. J Hand Surgery (Am).1978;3-B:547-9.
2. Green DP, Butler TE. Fracture and dislocation in the hand. In: Rockwood CA,

3. Green DP, Bucholz RW. Fracture in adults, 2nd ed. Philadelphia: Lippincott-Raven, 1996;1669-73
4. Ikpeme JO. Dislocation of both interphalangeal joints of one finger. Injury.1997;9: 68-70.
5. Ibrahim S, Noor MA. Simultaneous dislocation of carpometacarpal and metacarpophalangeal joint of thumb. Injury. 1993;24:343-4
6. Sakuma M, Inoue G. Simultaneous dorsal dislocation of the metacarpophalangeal and carpometacarpal joints of a finger. Arch Ortho trauma surgery. 1998 ;117: 286-7.