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Case Report

A rare case of closed isolated dislocation of the third metacarpophalangeal joint of the hand

Mothial Murali MBBS, MS^{a,*}, F. Abdul Khader MBBS, MS^a,
T. Sunderajan MBBS, MS^a, S.N. Mothilal MBBS, MS, MNAMS, D. Orth.^b

^a Assistant Professor, Dept of Orthopaedics, Sri Satya Sai Medical College & Research Institute, Chennai 603108, Tamil Nadu, India

^b Professor & HOD, Dept Of Orthopaedics, Sri Satya Sai Medical College & Research Institute, Chennai 603108, Tamil Nadu, India

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ABSTRACT

Metacarpophalangeal joint [MCP] dislocations of the index, little and thumb are common; that of the middle finger is very rare. In all the literature consulted only five cases of isolated closed dorsal dislocation of the MCP joint of the middle finger have been reported. Hyperextension of MCP joint is the mechanism of injury. We are herewith reporting a case of isolated MCP dislocation of the middle finger.

One of our medical students while driving a motorcycle fell down on the road and sustained lacerated wound over the hypothenar area of the left hand. There was prominence of the head of the third metacarpal on the volar aspect and the base of the proximal phalanx was prominent dorsally. MCP dislocation of the middle finger was our clinical diagnosis which was confirmed by the radiograph. The patient had reported within 60 min of the accident.

There was no tendon injury. Wound debridement was done, wound was extended to the back of the middle finger. The volar plate which was interposed between the head of the metacarpal and the base of the proximal phalanx was repositioned and the dislocation was reduced. Reduction was stable and the patient was reviewed after 14 months. The function of the hand is satisfactory.

The case is presented for its unique presentation. This is the sixth case of isolated dislocation of the MCP joint of the middle finger.

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1. Introduction

Isolated Metacarpophalangeal (MCP) joint dislocation of the middle finger is very rare. Some of these MCP dislocations are

complex and require open reduction.¹ Rockwood & Green² state that “there are no case reports in the literature of isolated dislocations in the ring or long fingers...” These injuries are most common at the index & little fingers where pathology

* Corresponding author. 47 Oliver Road, Mylapore, Chennai 600004, Tamil Nadu, India. Tel.: +91 (0) 9445373395.

E-mail address: muraliorth@gmail.com (M. Murali).

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Table 1 – Case reports of MCP dislocation of the long finger.

Author/year	Case details	Management	Outcome	Conclusion
1 Richard Nussbaum (1986)	10/male, injured right middle finger while playing basket ball. No associated injuries. Had treatment immediately	Open reduction immediately by cutting the ligaments & four weeks immobilisation	9 months follow up with full ROM	Open reduction is necessary in complex dislocations
2 Sedel (1986)	25/female injured left middle finger in accident. No associated injuries. Had treatment within 48 h	After failed closed reduction under GA open reduction was done with POP immobilisation	6 months follow up with full ROM	
3 Sedel (1986)	19/male injured left middle finger while playing. No associated injuries. Had immediate treatment	After failed closed reduction under GA open reduction was done with POP immobilisation	4 months follow up with full ROM	
4 Mostapha Boussouga (2004)	24/male hyperextension injury to right middle finger while playing volley ball; reported seven months after attempted closed reduction in a local hospital	Open reduction by dorsal approach	30 months follow up with ROM of 75° of MCP joint	Open reduction is necessary in complex dislocations
5 Mostapha Boussouga (2004)	42/male with injured left middle finger with fall on outstretched hand; reported 18 months after attempted closed reduction in a local hospital.	Open reduction by dorsal approach.	Elective arthrodesis was done as articular surfaces were abraded	Dorsal approach is simple & effective & avoids damage to the digital nerves

Fig. 1 – Clinical picture of the hand. **Fig. 2 – Showing abnormal anterior prominence of the 3rd metacarpal head.**

and operative management are well documented.^{1,3,4} There are only five cases of isolated dorsal MCP dislocation of the middle finger in the literature⁵ (Table 1). We are herewith presenting a case of isolated MCP dislocation of the middle finger (Figs. 1–9).

Fig. 3 – Anteroposterior radiographs of the hand confirming the dislocation.

Fig. 4 – Immediate post-operative picture.

2. Case report

A 22-year-old medical student reported to us after fall from the bike while he was riding. He had a lacerated wound over the left hypothenar area running upto the base of the ring finger.

There was no tendon injury. The head of the third metacarpal was prominent anteriorly and a clinical diagnosis of MCP dislocation of the middle finger was made and it was confirmed by the radiograph of the hand.

As the patient had reported to us within an hour after the injury, wound debridement was done without any delay under the General Anaesthesia. Closed reduction of the MCP dislocation of the middle finger was attempted. As it was not successful, the wound was extended to the base of the middle finger. The volar plate was found to be interposed; same was relieved and reduction of the dislocation was done. Joint was stable after open reduction. The finger was immobilised in functional position for three weeks.

The patient was reviewed after 14 months. According to Sollerman Hand Function Test,⁶ he had a score of 79 for the injured left hand and 80 for the right hand. Hand grip and function were full, satisfactory and he resumed to his original work (Student).

3. Discussion

Dislocation of the MCP joint of the middle finger is uncommon. Hyperextension is the usual mode of injury.^{1,4} Mostaphe-Boussouge et al reported two case reports of MCP

Fig. 5 – Post-operative X-ray showing the AP view of the hand.

Fig. 6 – Post-operative X-ray showing the lateral view of the hand.

Fig. 7 – (a–d) Showing function of the hand at 5 months.

Fig. 8 – AP view of the hand at 14 months.

Fig. 9 – Lateral view of the hand at 14 months.

dislocation of the middle finger.⁵ They have done open reduction through the dorsal approach. Both their cases were old dislocations, seven and 18 months old respectively. Our's is a fresh case; moreover he had a lacerated wound over the palm. So we had a palmar (volar) approach. In all the literature concerned only five cases of isolated dislocation of the MCP joint of the third finger has been reported.

We found as others that in a dorsal dislocation of the MCP joint the volar plate which is detached from the weakest attachment to the phalynx of the third finger is always interposed into the joint. This is the most important element preventing reduction.⁴ Our findings are in line those with Mostapha et al & Nussbaum.⁵

Conflicts of interest

No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.

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