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# **Dorsal Dislocation of the Fifth Carpometacarpal Joint: About 2 Cases and Review of the Literature**

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# Original Research Article

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**Abstract:** Traumatic carpo-metacarpal dislocations without associated fracture are rare lesions. Untreated, these lesions can lead to joint instability and early joint degeneration. We report 2 cases of dorsal carpo-metacarpal dislocation of the fifth metacarpal in 2 male patients. The age was 28 years and 39 years. On clinical examination both patients had edema and deformity of the dorsal surface of the right hand. The X-ray showed a dorsal carpo-metacarpal dislocation, pure, complete in both patients. The dislocation was successfully treated by closed reduction maintained with two K-wires. Immobilization of the joint was applied for 6 weeks. At 10 months' follow-up evaluation, the 2 patients showed no pain and had had regained their previous level of activity. **Keywords:** Carpo-metacarpal joint; dorsal; Dislocation.

#### **INTRODUCTION**

The dislocation of the carpo-metacarpal joints, other than that of the thumb, is a rare injury; occur most often as a result of high energy trauma in young adults. The mechanism of movement, palmar or dorsal, is due to a violent force perpendicular to the head of the metacarpal at the moment of impact acting as a lever on the carpo-metacarpal joint. The diagnosis is not always initially made because of the apparent normality of X-rays. The recommended treatment is closed reduction, followed or not by a Kirschner wiring and a immobilization splint. Sometimes an open-focus reduction with internal fixation is necessary, especially in the case of delayed diagnosis [1, 2].

The purpose of this article is to report two cases of lesions that are very rarely encountered, the diagnosis of which requires a thorough clinical examination and a conscientious radiological analysis.

#### MATERIALS AND METHODS

We report 2 cases of dorsal carpo-metacarpal dislocation of the fifth right metacarpal in 2 male patients. The age was 28 years and 39 years, with no particular pathological antecedents. In the first case it was a motorcycle accident. The other case was a punch against the wall after a blow of annoyance (indirect mechanism). Both cases presented pain and total functional impotence. Clinical examination of both patients showed edema and deformity of the dorsal face of the right hand (Figure-1). The face and lateral X-rays of the right hand showed a pure and complete dorsal

carpo-metacarpal dislocation in both patients (Figure-2). Our patients were operated on urgently, under locoregional anesthesia, tourniquet at the root of the limb. The carpo-metacarpal reduction was easy to focus closed followed by a synthesis by wiring (Figure-3). The wrist was immobilized by a splint in intrinsic position more for a period of 6 weeks, since then the ablation of the wires was realized. The active reeducation of the fingers was undertaken as early as the fourth postoperative week, keeping the splint between the reeducation sessions.



Fig-1: Clinical image of the right hand after the trauma



Fig-2: Face, profile and oblique view of the right hand showing carpo-metacarpal dislocation of the 5th right finger.



Fig-3: face view of the right hand showing a perfect reduction of the fifth carpo-metacarpal joint.

#### RESULTS

At 10 months of follow-up, the functional result was satisfactory with good muscle strength and complete recovery of flexion-extension wrist mobility and fingers in both patients. The work was resumed three months later.

#### DISCUSSION

The carpo-metacarpal joint is a very stable articulation [3, 4], all the authors agree to emphasize the extreme violence necessary to disorganize articular interlocking [5]. This makes carpo-metacarpal dislocation of the fingers a rare lesion (represents less than 1% of all wrist and carp trauma).

It interests the young adult. Very violent traumas such as traffic accidents are the main responsible. However, trauma of lower intensity such as punches, evoked during dislocation of mobile metacarpal [6]. If the diagnosis of this type of lesion is made urgently on a x-ray of the hand and wrist of strict profile, the prognosis is better, although the interpretation of X-rays is sometimes difficult. It is essential to achieve a strict profile incidence showing the direction of displacement of the metacarpal bases, an oblique incidence releasing the mobile or fixed metacarpal, and a face incidence. The reduction by external maneuvers with percutaneous wiring is a good

treatment in the absence of associated vasculo-nervous compression. The stabilization by wires of the carpometacarpal interlinings may be oblique, intramedullary or cross-shaped [6]. Postoperative immobilization is generally recommended for four to six weeks.

Carpo-metacarpal dislocations can have serious consequences if they are not treated adequately, hence the importance of early diagnosis. The deep branch of the ulnar nerve passing next to the 5th carpometacarpal joint is vulnerable to both dorsal [7, 8] and volar dislocations [9, 10].

## CONCLUSION

Carpo-metacarpal dislocations are rare lesions that deserve to be highlighted, because a large number go undetected either because of a summary examination poorly made or falling within the framework of a polytrauma. Subject to urgent and correct treatment, they are of good prognosis. In the management of our patients, closed reduction was easy and seemed stable. As a precaution, however, wiring was realized.

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