

Isolated Palmaire Luxation of the Base of the Fifth Metacarpian in a Boxer

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Case Report

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Abstract

The post-traumatic dislocation of the fifth finger is a rare lesion. In the absence of treatment, this lesion results in joint degeneration and instability. This lesion is usually unstable, treated by open, Closed. We report the case of a carpal-metacarpal dislocation isolated palmar pure in a boxer, clinically the patient presented a disturbance of rotation of 15° with a shortening of 5 mm. The standard radio graphy showed a palmar dislocation of the base of the 5th Metacarpal with a diastasis between the 4th and 5th metacarpal. The patient was treated with a parallel insertion of the M5M4M3 after reduction of the dislocation with closed focus and immobilization plastered for 45 days.

Keywords: Carpo-metacarpal dislocation; Palmar; Broaching

Introduction

Pairedcarpo-metacarpal dislocations are rare lesions, palmar displacements even more rare and presents 6% of the carpometacarpal dislocations [1]. The first palmar carpometacarpal dislocation was described by Rivington [2] in 1968 and Nalebuff [3] Fromthis date, 7 cases have been described in the literature, ouris the 9th (Table 1). These rare lesions often occur in a young person following a high-energy trauma, the lesion may go unnoticed initially, hence the interest of a careful and complete radiographic assessment. The treatment is based on the reduction in closed focus in emergency followed a splint or an embedding according to the stability of the dislocation, sometimes an open-heart reduction is used, combined with an internal fixation.

Observation

A young 28-year-old boxer who presented a wrist stroke during a fight, a trauma closed with his left hand.

The hand was painful with significant swelling without sensory-motor deficit. The little finger was shortened by 5 mm (Chmell line) and blocked in ulnar inclination. Radiographic images made in emergency show a palmar dislocation carpo-metacarpal of the 5th ray without associated fracture (figure 1).



Figure 1: Pre operative imaging.

The patient was operated under loco regional anesthesia, under the control of the shine enhancer, were alized two small first internal channels a few millimeters in front of the ulnar border of the 5th metacarpal, a reduction of the luxation to focus Closed with the sensation of a jump during the maneuver, the reduction was stable. The patient benefited from a double parallel embedding of the last 3 fingers and placement of an antebrachio-palmar anterior for 45 days with a mobilization Active of the fingers and elevation of the limb during the first days (Figure 2).



Figure 2: Perioperative imaging.

At 6 months follow-up, the patient was reviewed in painless consultation and hadal most complete functional recovery: the wrist strength was 90% compared to the contra lateral wrist, the fingers and the thumb Kapandji score at 10, flexion extension of the wrist at 90°, normal prognosis and radial inclination at 35°; Ulnar ultra sound at 45° and an excellent DASH score calculated at 0.8. Clinical radio monitoring showed no evidence of early carpal-metacarpal osteoarthritis.

Discussion

Carpometacarpal dislocations are rare lesions that present less than 1% of all wrist and carp trauma [1], often resulting from high-energy trauma due to the high stability of the carpometacarpal. Thanks to the inter-metacarpal ligaments, palmarcarpo-metacarpals and dorsal carpometacarpals. The diagnosis is based on the realization of dynamic radio graphs [2] because it can go unnoticed on ordinary pictures. A movement of the fifth

meta carpal with respect to the hamatum, which can range from the small displacement to the overlap, is then observed. In addition, some authors recommend a complementary computed tomography scan [3,4].

Clinically, there is a deformity of the hand, a hematoma and a functional importance.

Carpometacarpal dislocations are classified according to Costagliola (1966) in complete or partial spatular carpometacarpal dislocations, in palmar luxation, in lateral dislocations particularly interesting in the fifth ray and in divergent luxations [27]. The palmar form of the carpometacarpal dislocations represents 6% of the dislocations [27].

For treatment, there is no consensus in the literature, but surgical treatment is often necessary, including a closed-heart reduction followed by an intermetacarpal or carpo-metacarpal attachment [29].

For us, percutaneous embedding - when closed reduction is possible, but many authors prefer open-pit reduction especially in fractures dislocations to have an anatomical reduction [30,5,31,32]. Postoperative immobilization is generally recommended for four to six weeks.

Several complications have been reported in the literature, such as decreased grip strength, persistence of residual pain, secondary displacement, and subluxation [33]. For our case although there were no complications but this is not justifying.

It can be said that the prognosis of the carpo-metacarpal dislocations is often good, but there is a risk of persistent pain and limitation of movements.

Conclusion

The palmar carpo-metacarpal dislocations are rare lesions which deserve to be systematically investigated in the closed trauma of the hand. The treatment is surgical with inter-metacarpal or carpo-metacarpal embedding. Subject to urgent and correct treatment, they are generally of good prognosis.

References

1. Tsepelidis D, Schuind F (2014) Luxation carpo-métacarpienne palmaire du cinquième doigt : à propos d'un cas Volar dislocation of the fifth

- carpometacarpal joint: A case report. *Chirurgie de la main* 33: 227-230.
2. Kneife F (2002) Simultaneous dislocations of the five carpometacarpal joints. *Injury* 33: 846.
 3. Nalebuff EA (1968) Isolated anterior carpometacarpal dislocation of the fifth finger: classification and case report. *J Trauma* 8: 1119-1123.
 4. Bajekal RA, Kotwal PP, Menon D (1992) Closed volar dislocation of the four ulnar carpometacarpal joints. *Injury* 23: 355-356.
 5. Dillon JP, Laing AJ, Thakral R, Buckley JM, Mahalingam K (2006) Volar dislocation of the index carpo-metacarpal joint in association with a Bennett's fracture of the thumb: a rare injury pattern. *Emerg Med J* 23: e23.
 6. Gore DR (1971) Carpo-metacarpal dislocation producing compression of the deep branch of the ulnar nerve. *J Bone Joint Surg Am* 53: 1387-1390.
 7. Hazlett JW (1968) Carpo-metacarpal dislocations other than the thumb: a report of 11 cases. *Can J Surg* 11: 315-323.
 8. Inui A, Kokubu T, Mifune Y (2013) Volar dislocation of index and middle finger carpometacarpal joints: a case report. *J Hand Surg Eur* 40(1): 99-100.
 9. Jameel J, Zahid M, Abbas M, Khan AQ. (2013) Volar dislocation of second, third and fourth carpometacarpal joints: a rare and easily missed diagnosis. *J Orthop Traumatol* 14: 67-70.
 10. Kahlon IA, Karim A, Khan Z (2011) Multiple carpo-meta carpalvolar dislocation. *J Coll Physicians Surg Pak* 21: 49-51.
 11. Kleinman WB, Grantham SA (1978) Multiple volar carpo-metacarpal joint dislocation. Case report of traumaticvolar dislocation of the medial four carpo-metacarpal joint in a child and review of the literature. *J Hand Surg* 3(4): 377-82.
 12. Kumar S, Arora A, Jain AK, Agarwal A (1998) Volar dislocation of multiple carpo-metacarpal joints: report of four cases. *J Orthop Trauma* 12: 523-526.
 13. Lintner SA, Rettig AC (1995) Isolated volar carpo-metacarpal dislocation of the fifth digit. *Am J Orthop (Belle Mead NJ)* 24: 918-919.
 14. Nakayama M, Horiuchi Y, Kawashima H (2007) Isolated volar dislocation of the fifth carpo-metacarpal joint: a case report. *Hand Surg* 12(3): 165-168.
 15. O'Rourke PJ, Quinlan W (1993) Fracture-dislocation of the fifth metacarpal resulting in compression of the deep branch of the ulnar nerve. *J Hand Surg* 18: 190-191.
 16. Pack DB, Grossman TW, Resnik CS, Gillespie T (1995) Isolated volar dislocation of the index carpo-metacarpal joint: a unique injury. *Orthopedics* 18(4): 389-390.
 17. Peterson P, Sacks S (1986) Fracture-dislocation of the base of the fifth meta carpal associated with injury to the deep motor branch of the ulnar nerve: a case report. *J Hand Surg Am* 11(4): 525-528.
 18. Prokopis PM, Weiland AJ (2008) Volar dislocation of the fourth and fifth carpometacarpal joints: a case report and review of the literature. *HSS J* 4(2): 138-142.
 19. Schutt Jr RC, Boswick Jr JA, Scott FA (1981) Volar fracture-dislocation of the carpo-metacarpal joint of the index finger treated by delayed open reduction. *J Trauma* 21: 986-987.
 20. Sreedharan S, Chew WY (2008) Re: isolated fifth carpo-metacarpal joint volar dislocation with ulnar neuropathy. *J Hand Surg Eur* 33(2): 219-220.
 21. Tomita K, Kitahara K (1971) 2 cases of volar dislocation of carpo-metacarpal joint. *Seikei Geka* 22(6): 66-68.
 22. Tountas AA, Kwok JM (1984) Isolated volar dislocation of the fifth carpometacarpal joint. Case report. *Clin Orthop Rel Res* 187: 172-175.
 23. Woo CC (1988) Traumatic volar dislocation of the second, third and fourth carpo-metacarpal joints: mechanism and manipulation. *J Manipulative Physiol Ther* 11: 124-129.
 24. Yamakado K, Hashimoto F, Nagata S, Higuchi M (2000) Isolated palmar dislocation of the fifth carpo-metacarpal joint diagnosed by stress X-rays. *Arch Orthop Trauma Surg* 120(9): 529-530.
 25. Young TB (1987) Dorsal dislocation of the metacarpal base of the little and ring fingers with ulnar nerve branch compression. *Injury* 18: 65-66.

26. Hsu JD, Curtis RM (1970) Carpo-metacarpal dislocations on the ulnar side of the hand. *J Bone Joint Surg Am* 52: 927-930.
27. Masquelet AC, Nordin JY, Savary L, Poulizac C (1986) À propos d'un cas de luxation antérieure des quatre derniers métacarpiens. *Ann Chir Main* 5(1): 63-66.
28. Kapandji A (1986) Cotation clinique de l'opposition et de la contre-opposition du pouce. *Ann Chir Main* 5(1): 67-73.
29. Dobyns JH, Linscheid RL, Cooney WP (1983) Fractures and dislocations of the wrist and hand, then and now. *J Hand Surg Am* 8: 687-690.
30. Ameziane L (2002) La luxation carpométacarpienne complète des doigts longs, à propos de deux cas. *Chir Main* 21: 309-312.
31. Harwin SF, Fox JM, Sedlin ED (1975) Volar dislocation of the bases of the second and third metacarpals. A case report. *J Bone Joint Surg Am* 57(6): 849-851.
32. Latifi M, Chafik R, Madhar M, Essadki B, Fikry T (2005) La luxation carpomé-tacarpienne antérieure complète des doigts. À propos d'un cas. *Chir Main* 24: 106-108.
33. Waugh RL, Yancey AG (1948) Carpometacarpal dislocations: with particular reference to simultaneous dislocation of the bases of the fourth and fifth meta carpals. *J Bone Joint Surg* 30A: 397-404.