

FRACTURE-DISLOCATION OF THE HAMATOMETACARPAL JOINT A CASE REPORT

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A case of carpometacarpal dislocation involved dorsal dislocation of the fourth and fifth metacarpal, associated with a fracture of the hamate. Reduction and Ki-wire fixation resulted in good hand function.

Keywords : hamate ; carpometacarpal dislocation ; wrist.

Mots-clés : luxation carpo-métacarpienne ; poignet ; os crochu.

INTRODUCTION

Dislocations of the carpometacarpal joints, except for those of the first ray, are uncommon injuries. Recently two different authors reviewed the published cases (6, 7) and recollected respectively 215 and 143 patients.

We treated a patient with a dorsal dislocation of the fourth and fifth metacarpal, associated with a fracture of the hamate.

CASE REPORT

A 34-year-old man hit his right (dominant) fist against the wall. Swelling and pain occurred immediately, but he was able to finish his working day.

He was seen 6 hours later with massive swelling of the hand and wrist. The radiographs (plain and tomograms) revealed a dorsal dislocation of the fourth and fifth metacarpals, fracture of the base of the fourth metacarpal and comminution of the dorsal cortex of the hamate (fig. 1, 2).

Three days later, when most of the swelling had subsided, an exploration revealed that the fourth and fifth metacarpal were still attached to each

other and both were dorsally dislocated. The articular surface of the hamate was partially depressed and two bone fragments of the hamate were avulsed and still attached to the fifth metacarpal by the ligaments.

Reduction was achieved by simple longitudinal traction on the corresponding fingers, but the reduction was very unstable, and Ki-wire fixation was necessary (fig. 3).

The patient returned to his previous job as a mechanic after 4 months. Clinical examination one year later revealed a grip of normal power and normal mobility of wrist and fingers. He was completely pain free, even after heavy manual labor. On xray the joint space remained unchanged.

DISCUSSION

Diagnosis of carpometacarpal (CMC) dislocation is often missed because of the absence of obvious physical and radiological features. The use of additional diagnostic techniques is imperative ; lateral tomograms are useful tools for an exact diagnosis of these lesions.

Although reduction is often easily achieved, it usually is unstable and requires complementary fixation (2, 3). Two recent publications (6, 7) review the published cases. Dislocation of the two "mobile" metacarpals is the most frequent combination, accounting for about 12.5% of the carpometacarpal dislocations.

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Fig. 1. — Radiograph of dislocated fifth metacarpal.

The association with hamate fractures is not as frequent as the association with fractures of the base of the fifth metacarpal (resembling Bennett's fracture), but several isolated cases have been published (1, 5, 8). To our knowledge only 3 series have been reported (2, 3, 4).

The diagnosis is often overlooked (2, 3) for several months. Three mechanisms of injury have been proposed (3). In this case axial loading transmitted along the metacarpal shaft seemed obvious.

Cain *et al.* (2) proposed a classification system: Type I is a CMC dislocation without carpal fracture (Ia) or with a small dorsal chip fracture (Ib), type II is a CMC dislocation with a major fracture affecting only the dorsal aspect of the carpal bone, and type III is a coronal carpal fracture involving both the CMC and midcarpal joint.

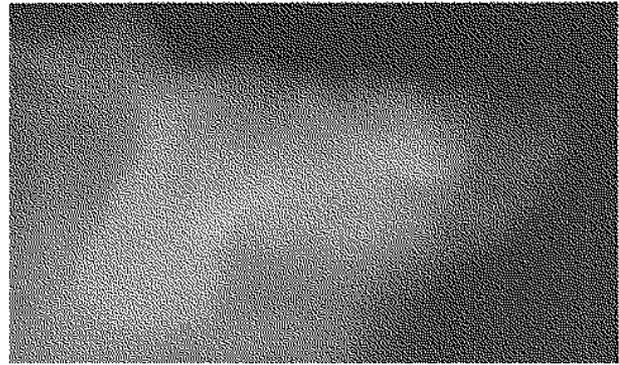


Fig. 2. — Lateral tomogram of the dislocated metacarpal and fracture of the dorsal cortex of the hamate.

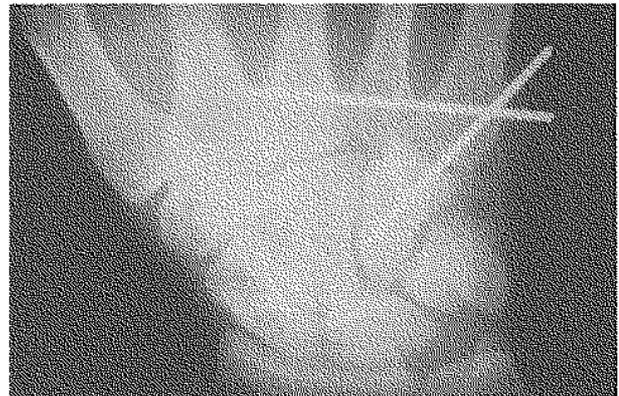


Fig. 3. — Postoperative xray.

This case is a type II lesion. Types II and III are unstable, and open reduction with restoration of the articular surface is recommended (3) to prevent redislocation and late carpometacarpal osteoarthritis. The key to success is early diagnosis, and according to Garcia-Elias *et al.* (3) lateral tomographs are the most effective method of diagnosis.

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SAMENVATTING

L. DE SMET. Fractuur-luxatie van het hamatometacarpaal gewricht. Een gevalsstudie.

Een geval van carpometacarpale luxatie wordt gepubliceerd. De vierde en vijfde metacarpalia waren naar

dorsaal geluxeerd met geassocieerde fractuur van het os hamatum. Reduktie en verpenning leidden tot een goede handfunctie.

RÉSUMÉ

L. DE SMET. Fracture-luxation de l'articulation carpo-métacarpienne.

Un cas de luxation carpo-métacarpienne est publié. Les quatrième et le cinquième métacarpiens étaient luxés en arrière avec fracture associée de l'os crochu. La réduction et l'embrochage furent suivis d'une bonne récupération fonctionnelle.