



Clinical case

Transverse translunate fracture–dislocation: A rare injury

Fracture-luxation translunaire transversale : une lésion exceptionnelle

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Abstract

Perilunate fracture–dislocation is rare. We report the case of a 24-year-old male who fell from his motorcycle and presented with a transverse lunate fracture with perilunate ligament damage. The initial diagnosis based on X-rays was confirmed by CT scan. A dorsal approach was used to obtain good reduction, double screw fixation and ligament reinsertion protected by temporary K-wires. To the best of our knowledge, this is the first case of transverse lunate fracture within perilunate fracture–dislocation. The patient returned to normal activities after 6 months.

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Keywords: Carpus; Lunate; Dislocation; Fracture; Ligament

Résumé

Les fractures-luxations périlunaires du carpe sont rares. Nous rapportons le cas d'un homme de 24 ans, droitier qui, dans les suites d'une chute par accident de la voie publique en moto, a présenté une fracture-luxation translunaire avec atteinte ligamentaire périlunaire. Le diagnostic, suspecté sur les radiographies initiales, a été confirmé par un scanner. Un abord postérieur a été réalisé pour permettre une réduction de la fracture fixée par un double vissage enfoui, associée à une réinsertion ligamentaire et brochage temporaire en protection. Il s'agit, à notre connaissance, du premier cas rapporté de fracture transversale du lunatum dans le cadre d'une fracture-luxation périlunaire. Le patient a pu reprendre ses activités dans un délai de 6 mois.

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Mots clés : Carpe ; Lunatum ; Luxation ; Fracture ; Ligament

1. Introduction

Perilunate fracture–dislocations of the carpal bones are rare [1–3]. We will describe the first case involving a transverse fracture of the lunate with complex perilunate ligament damage.

2. Case report

This was a young man of 24 years who suffered trauma to both wrists following a motorcycle accident in September 2009. The initial examination found painful swelling of both wrists associated with total functional disability and pain during passive motion of the fingers with no sensory or motor neurological deficit, vascular damage or skin disorder.

The initial radiological assessment performed in the emergency room revealed a perilunate fracture–dislocation of the left wrist and a lunotriquetral separation with static volar axial misalignment of the intermediate segment (VISI) of the

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right wrist (Figs. 1 and 2). Specialized advice was sought, and after rereading the initial x-rays, a CT scan was performed to confirm the diagnosis of transverse lunate fracture in the left wrist associated with a comminuted intra-articular fracture of the radial styloid process and a fracture of the ulnar styloid process (Figs. 3 and 4). The CT scan also confirmed the dorsal displacement of the distal fragment of the lunate and the integrity of the articular lunocapitate surfaces.

Because of the observed displacement, we decided to perform urgent surgical treatment. Treatment consisted of a dorsal approach with capsulotomy according to Berger et al.

[4], combining compression of the bone block with flat head screws for the lunate and reduction of the articular surface of the radial styloid process under visual control. Surgical exploration confirmed the scapholunate and lunotriquetral ligament tears. Ligament reattachment with a Mitek™ microanchor was performed and the repair was protected by temporary K-wire pinning in the left wrist (Fig. 5). The ulnar styloid process fracture was not fixed because the distal radioulnar joint in the left wrist was not unstable.

The patient used a simple wrist splint for 45 days. Active mobilization of the metacarpophalangeal and interphalangeal

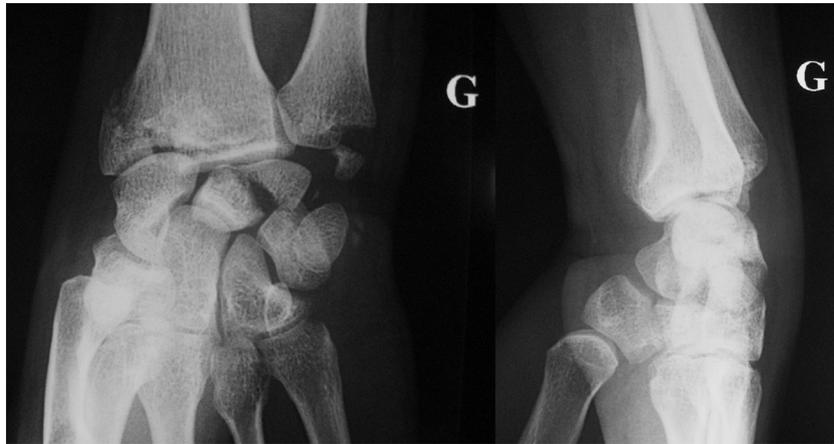


Fig. 1. Standard preoperative A/P and lateral radiographs of the left wrist.

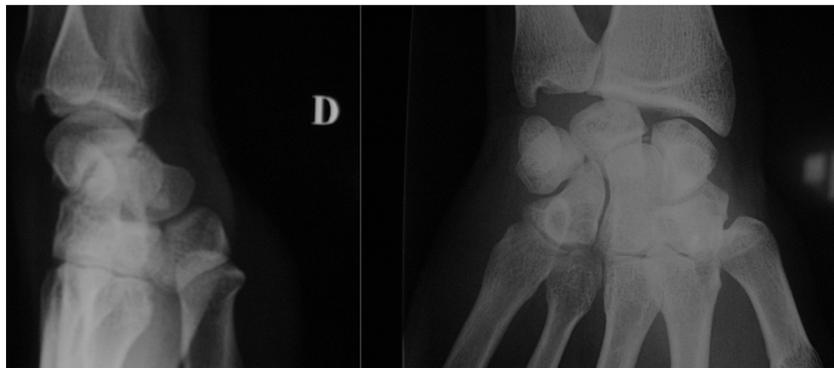


Fig. 2. Standard preoperative A/P and lateral radiographs of the right wrist.

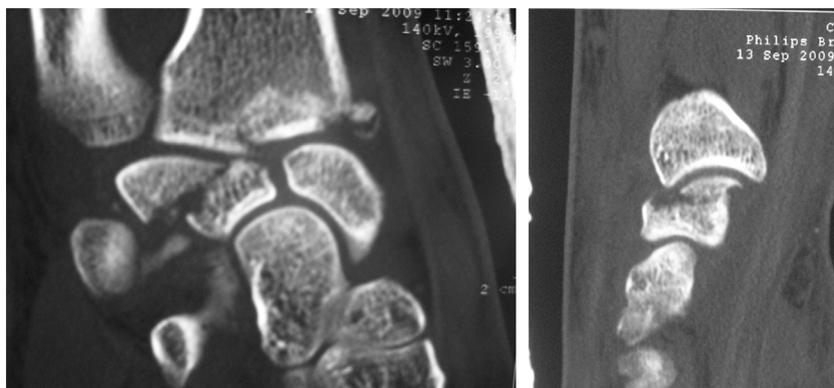


Fig. 3. Initial CT scan with frontal and sagittal sections showing the lunate and radius fractures.

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