

MEDIAN NERVE NEUROPATHY FROM AN OLD LUNATE DISLOCATION

J. CARA, A. NARVAEZ, V. DE LA VARGA and E. GUERADO

The case of an old volar dislocation of the lunate, associated with median nerve neuropathy, is described in a 37-year-old patient. The treatment took into account the age of the patient and the relative tolerance to the dislocation. We performed a simple excision of the lunate combined with a release of the transverse carpal ligament in order to free the median nerve, together with a tenosynovectomy of flexor digitorum profundus. Two years after operation, wrist function was virtually complete and the patient was asymptomatic and had resumed his occupation.

Keywords : dislocation ; complications ; lunate bone ; carpal bone ; wrist joint ; median nerve.

Mots-clés : luxation ; complications ; semi-lunaire ; carpe ; nerf médian.

INTRODUCTION

The clinical presentation of a chronically dislocated lunate may be one of attritional rupture of the flexor tendons or dysfunction of either the median or ulnar nerve rather than deformity or dysfunction of the wrist (2, 3).

We report the case of a male laborer with median nerve neuropathy from direct compression of the median nerve by an old dislocated lunate.

CASE REPORT

A 37-year-old right-handed male laborer presented with pain and paresthesias in the distribution of the median nerve but no pain in the wrist. He had been involved in a motorcycle accident 10 years previously.

Physical examination of the wrist showed limited motion in all planes. The Tinel sign over

the median nerve at the wrist was positive, as was the Phalen test.

Radiographs of the wrist showed anterior dislocation of the lunate with no osteoarthritis of the wrist joint (Fig. 1, 2). MRI showed the dislocation of the bone and compression of the median nerve and flexor digitorum profundus tendons (Fig. 3).

The electromyogram demonstrated low amplitude and fibrillation in the thenar muscles. Nerve-conduction velocity studies revealed an average distal motor and sensory latency.

Owing to the patient's age and the relative tolerance of his dislocation, we decided to perform a simple resection of the lunate combined with a release of the transverse carpal ligament to free the median nerve and with synovectomy of the flexor digitorum profundus.

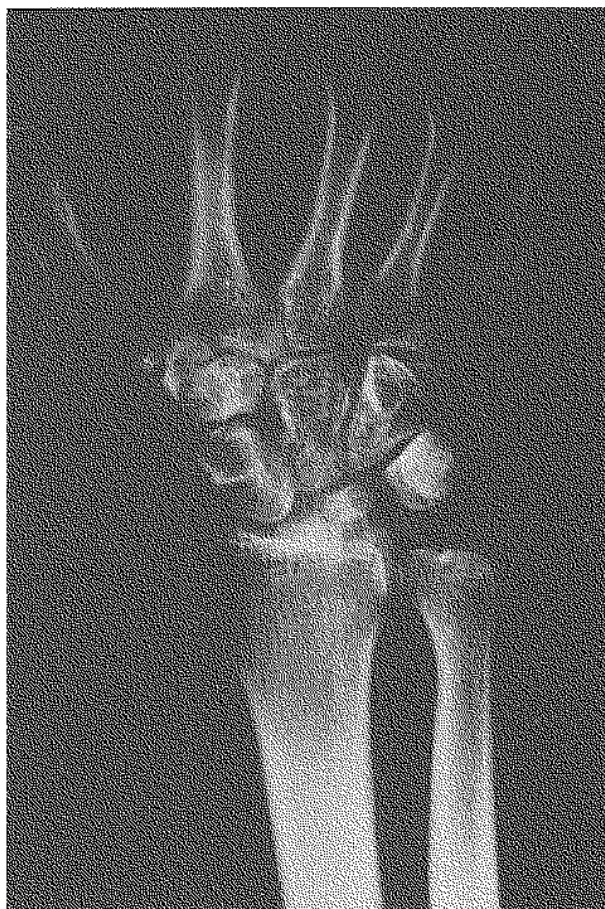
Two years after operation, the wrist function was virtually complete and the patient was asymptomatic and had resumed his occupation.

DISCUSSION

Anterior dislocation of the lunate represents the final stage of a major ligamentous injury of the carpus (2). Without adequate radiographic evaluation, dislocation of the lunate may be overlooked because of swelling of the wrist and associated deformity. Therefore, it is not surprising that patients seen at a later stage may have symptoms

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Fig. 1. -- (a) AP and (b) lateral radiographs demonstrating lunate dislocation in the right wrist.

related to the overlying soft tissue structures, caused by the anteriorly dislocated lunate (2).

Siegert *et al.* (3) described a patient presenting with bilateral carpal tunnel syndrome as long as 42 years after a bilateral perilunate dislocation. Cooney *et al.* noted that it is not uncommon for patients who have chronic perilunate fracture-dislocations to be seen because of neurological problems or tendinous ruptures (2).

In patients who have chronic anterior dislocations of the lunate without a fracture, osteoarthritis of the radiocarpal or intercarpal joint is rare, and pain in the wrist is uncommon despite the deformity and restriction of motion of the wrist.

The remaining radioscaphoid and ulnotriquetral articulations function as a mobile, painless wrist.

Proximal row carpectomy, which has been suggested for disorders of the proximal carpal row (5), further disturbs radiocarpal and intercarpal joints and usually delays functional recovery. Other possibilities of treatment are four-corner arthrodesis (5), preoperative distraction and reduction (4) and resection with bone scapholunate allograft (1).

Our patient had favorable results in terms of functional recovery, return to work, and range of motion of the wrist after excision of the lunate alone. Proximal row carpectomy should be reserved for a later stage; that is, for wrists that have osteoarthritis involving the radioscaphoid or ulnotriquetral articulations or for those cases with symptomatic rotary subluxation or instability of the scaphoid or triquetrum.



a



b

Fig. 2. — (a) Right and (b) left radiographs of the carpal tunnel. The lunate occupies the carpal tunnel.



a



b

Fig. 3. — (a) Coronal and (b) sagittal MR imaging of the lunate dislocation with compression of the median nerve and flexor tendons.

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SAMENVATTING

J. CARA, A. NARVAEZ, V. DE LA VARGA, E. GUERADO. Nervus medianus neuropathie na een oude lunatumluxatie.

Een geval met een oude palmaire luxatie van het os lunatum geassocieerd met een n. medianus neuropathie

wordt beschreven bij een 37-jarige patiënt. De behandeling werd uitgevoerd in functie van de leeftijd van de patiënt, het feit dat de luxatie goed werd verdragen. Een excisie van het os lunatum met transectie van het ligamentum transversum carpi werd uitgevoerd. 2 jaar postoperatief was de polsfunctie volledig en was de patiënt asymptomatisch.

RÉSUMÉ

J. CARA, A. NARVAEZ, V. DE LA VARGA, E. GUERADO. Neuropathie par compression du nerf médian résultant d'une luxation négligée du semi-lunaire.

Les auteurs rapportent le cas d'un homme de 37 ans qui a consulté pour une neuropathie par compression du nerf médian, secondaire à une luxation antérieure négligée du semi-lunaire remontant à 10 ans. Du fait de l'âge du patient et de la bonne tolérance fonctionnelle de la lésion, le traitement s'est limité à l'excision du semi-lunaire associée à une section du ligament annulaire antérieur du carpe et à une téno-synovectomie du fléchisseur commun profond. Deux ans après l'intervention, la fonction du poignet était virtuellement complète, le patient était asymptomatique et avait repris son métier.