DISPLACED RADIOCARPAL DISLOCATION WITH MULTIPLE ASSSOCIATED FRACTURES

S. A. ANTUÑA, J. G. MENDEZ, J. PAZ JIMENEZ

An unusual case of radiocarpal dislocation in a 33-year-old man is reported. He was treated with closed reduction and plaster immobilization with a good functional result.

Keywords : wrist ; dislocation ; carpus.
Mots-clés : poignet ; luxation ; carpe.

CASE REPORT

A 33-year-old man was brought to the emergency room after being involved in a traffic accident. Physical examination revealed a right eye perforation, multiple facial cuts, proximal interphalangeal joint dislocation of the right long finger and pain with deformity of the left wrist. There were no signs of vascular or nerve damage. A radiographic examination confirmed the long finger dislocation and showed a dorsoulnar radiocarpal dislocation of the left wrist associated with avulsion of the radial styloid processes and fracture of the dorsal radial rim. No intracarpal fracture or dislocation was identified (fig. 1).

Both dislocations were reduced under local anesthesia. Radiographs showed the radiocarpal joint and the radial styloid process in place. A plaster cast was applied with the hand in semipronation and mild dorsiflexion (fig. 2). After 6 weeks the plaster cast was removed, and the patient received therapy for motion and wrist strengthening. Five months after the injury the wrist had good function with no pain. The range of motion of his left wrist was 45° of dorsiflexion, 35° of palmar flexion, 15° of radial deviation and 20° of ulnar deviation. At that time he had resumed his usual employment.

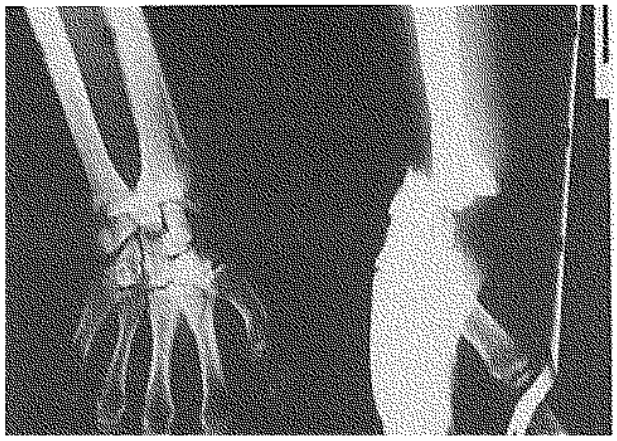

Fig. 1. — Initial AP and lateral views of the left wrist on presentation. There is a dorsocubital dislocation of the carpus associated with ulnar and radial styloid process avulsion. An impaction fracture of the dorsal radial rim is also present.

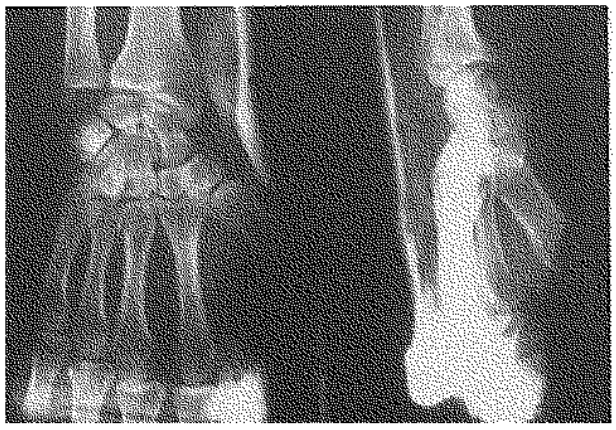

Fig. 2. — AP and lateral views of the wrist after manipulation and immobilization. The radial styloid process is in place, and there is normal radiocarpal alignment.

[1] Department of Orthopedic Surgery, Asturias Central Hospital, Celestino Villamil, s/n, 33006 Oviedo, Spain.
Correspondence and reprints : S. A. Antuña.

DISCUSSION

Radiocarpal dislocations are rare injuries. They represent about 0.2% of all dislocations (2). In 1989, 24 well-documented cases had been reported (5, 6, 8). In their report on 6 cases, Le Nen *et al.* (4) described a dorsoulnar radiocarpal dislocation with avulsion of radial and ulnar styloid processus and impaction fracture of the dorsal radial rim. To our knowledge, this is the only previously reported case identical to ours.

These dislocations usually occur as a result of severe trauma to an outstretched dorsiflexed hand (9). Dorsal or palmar dislocation of the carpus is often associated with avulsion of the radial styloid process, the ulnar styloid process or both ; a minor comminuted impaction fracture of the dorsal rim of the radius may be present (7). Pure radiocarpal dislocations are extremely rare (1, 3). Based on the extent of the injury, radiocarpal dislocations can be classified as : type I, where the carpus dislocates as one unit on the distal radius and type II, where associated intercarpal dislocation is also present (5).

There is no consensus as to the most appropriate management of these injuries. Closed manipulation and plaster inmobilization for 6 weeks is indicated when satisfactory reduction is achieved. If the reduction is very unstable, cross-pinning of the radiocarpal joint should be considered. Open reduction is reserved for cases where closed reduction fails or where there is an associated intercarpal dislocation.

REFERENCES

1. Bohler L. Werrenkungen der Handgelenke. Acta Chir. Scand., 1930, 67, 154-177.
2. Dunn A. W. Fractures and dislocations of the carpus. Surg. Clin. North Am., 1972, 52, 1513-1538.
3. Freund L. G., Ovesen J. Isolated dorsal dislocation of the radiocarpal joint. J. Bone Joint Surg., 1977, 59-A, 277.
4. Le Nen D., Riot O., Caro P., Le Fevre C. Luxation-fractures de la radio-carpienne. Étude clinique de six cas et revue générale. Ann. Chir. Main., 1991, 1, 10-1, 5-12.
5. Moneim M. S., Bolger J. T., Olmer G. E. Radiocarpal dislocation : Classification and rationale for management. Clin. Orthop., 1985, 192, 199-209.
6. Schoenecker P. L., Gilula L. A., Shively R. A., Manske P. R. Radiocarpal fracture-dislocation. Clin. Orthop., 1985, 197, 237-244.
7. Taleisnik J. The Wrist. Churchill Livingstone, New York, 1985, 223-25.
8. Thomsen S., Falstie-Jensen S. Palmar dislocation of the radiocarpal joint. J. Hand Surg., 1989, 14-A, 627-630.
9. Weiss C., Laskan R. S., Spinner M. Irreductible radiocarpal dislocation. A case report. J. Bone Joint Surg., 1970, 52-A, 562-4.

SAMENVATTING

S. A. ANTUNA, J. G. MENDEZ, J. PAZ JIMENEZ. Radiocarpale en ulnocarpale fraktuur-luxatie.

De auteurs beschrijven een ongewone fraktuur-luxatie van de pols, bij een 33 jarige man. De behandeling met name gesloten reductie, gevolgd met gipsimmobilisatie, gaf een goed funktioneel resultaat.

RÉSUMÉ

S. A. ANTUNA, J. G. MENDEZ, J. PAZ JIMENEZ. Fracture-luxation radio- et cubito-carpienne.

Les auteurs présentent un cas de fracture-luxation radio-carpienne chez un malade de 33 ans. Le traitement, consistant en une réduction fermée et une immobilisation plâtrée, donna un bon résultat fonctionnel.