BRIEF REPORT

IRREDUCIBLE TRANS-SCAPHOID PERILUNATE DISLOCATION

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Summary

A case of irreducible trans-scaphoid perilunate dislocation of the carpus is presented. Reduction was achieved at operation and good function resulted. The literature is reviewed.

Introduction

Irreducible trans-scaphoid perilunate dislocation is extremely rare; one other case has been reported (Weiss *et al*, 1970). In that case there was volar dislocation of the proximal scaphoid fragment.

Case Report

A 29 year old right handed lorry driver fell down a stairs and injured his right wrist. He presented in the Accident Department six hours later with an extremely swollen right wrist and paraesthesia in the median nerve distribution. X-rays showed a dorsal trans-scaphoid perilunate dislocation (Fig. 1) with the proximal fragment of the scaphoid rotated through 180° (Fig. 2). The wrist was manipulated under general anaesthetic to reduce the perilunate dislocation (Fig. 3). It was noted prior to this manipulation that the scaphoid fracture was irreducible but operative reduction was not undertaken at this stage because of the degree of swelling of the wrist. The median nerve was decompressed as an emergency procedure. After nerve decompression the patient made a full neurological recovery. Five days later, when the swelling had subsided, the scaphoid fracture was approached through a midline dorsal incision. The proximal scaphoid fragment was immediately encountered, in its rotated position, devoid of all soft tissue attachment (Fig. 4). The fragments were reduced and drilled with a 2 mm drill bit and tapped with a 4 mm thread in the proximal fragment. A 20 mm A.O. cancellous screw was inserted across the reduced fracture. The capsule of the wrist joint was repaired with chromic catgut. A scaphoid type cast was applied. The plaster was removed by the patient at six weeks and he returned to work. At review at eight weeks he lacked 30° of dorsiflexion of the wrist and 25° of palmar flexion. X-rays showed a relative increased density of the proximal fragment of the scaphoid indicative of avascular necrosis (Fig. 5). On review at seven-

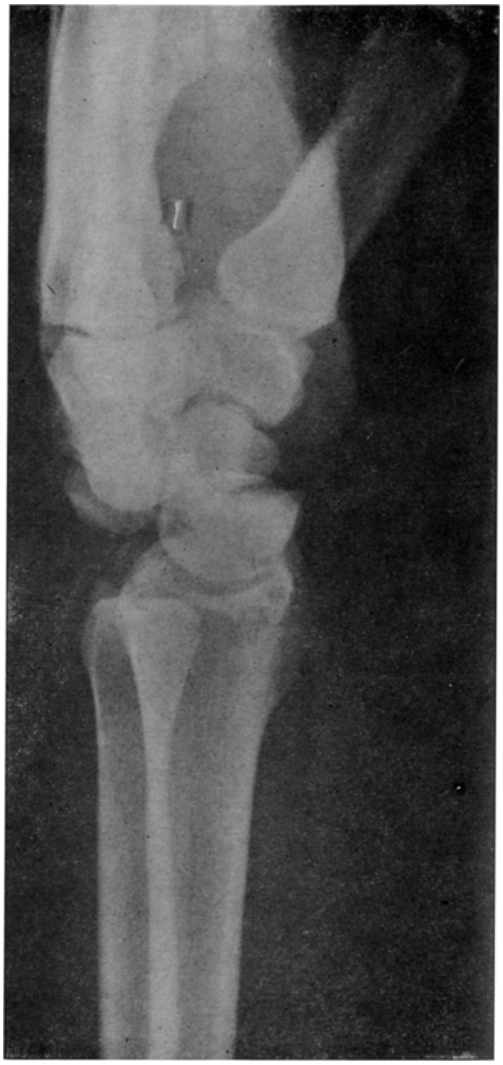

Fig. 1--Lateral radiograph showing dorsal trans-scaphoid perilunate dislocation.

Fig. 2—P.A. radiograph of trans-scaphoid perilunate dislocation. Note proximal scaphoid fragment is rotated through 180°.

months the patient was asymptomatic but on examination lacked 25° of dorsiflexion and 20° of palmar flexion of the wrist. X-rays showed the proximal half of the scaphoid bone to be demineralised suggestive of revascularisation and that the fracture had united (Fig. 6). A bone scan at nineteen months showed increased osteoblastic activity throughout the bones of the wrist without an avascular cold spot (Fig. 7).

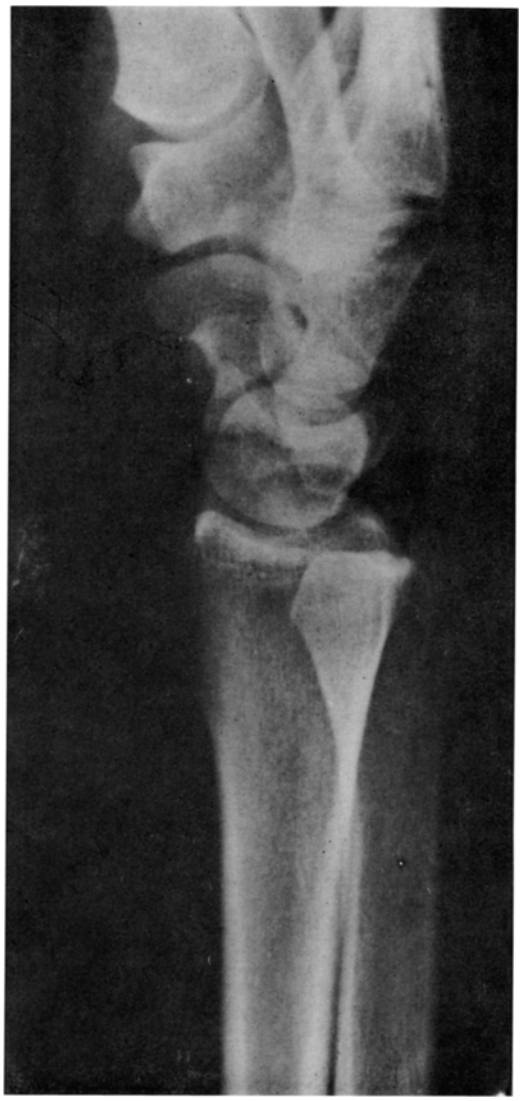

Fig. 3—Lateral radiograph following partial reduction of dislocation.

Discussion

Dorsal trans-scaphoid perilunate dislocations are not rare injuries. They comprise approximately 5 per cent of all wrist injuries (Böhler, 1956). In these injuries, the midcarpal dislocation is accompanied by a fracture through the waist of the scaphoid bone and the distal pole of the scaphoid displaces dorsally with the capitate leaving the proximal pole attached to the lunate (Green and O'Brien, 1980). Closed reduction is usually easy to obtain when the injury is acute (Russell, 1949) though anatomical reduction of the scaphoid fragments must be obtained to achieve satisfactory healing. In the single case described by Weiss *et al* (1970) the proximal pole of the scaphoid was dislocated volarwards and rotated through 180°. In the case presented the proximal pole was dorsally dislocated and again rotated through 180°. This degree of rotation of necessity is accompanied by rupture of the scapho-lunate ligaments which denudes the fragment of bone of its blood supply. Manipulation failed to reduce the fragments. Open reduction confirmed the suspected diagnosis and internal fixation achieved union.

Fig. 4—Intraoperative photograph of proximal scaphoid fracture.

Fig. 5—P.A. radiograph at eight weeks showing increased density of proximal scaphoid fragment suggestive of avascular necrosis.

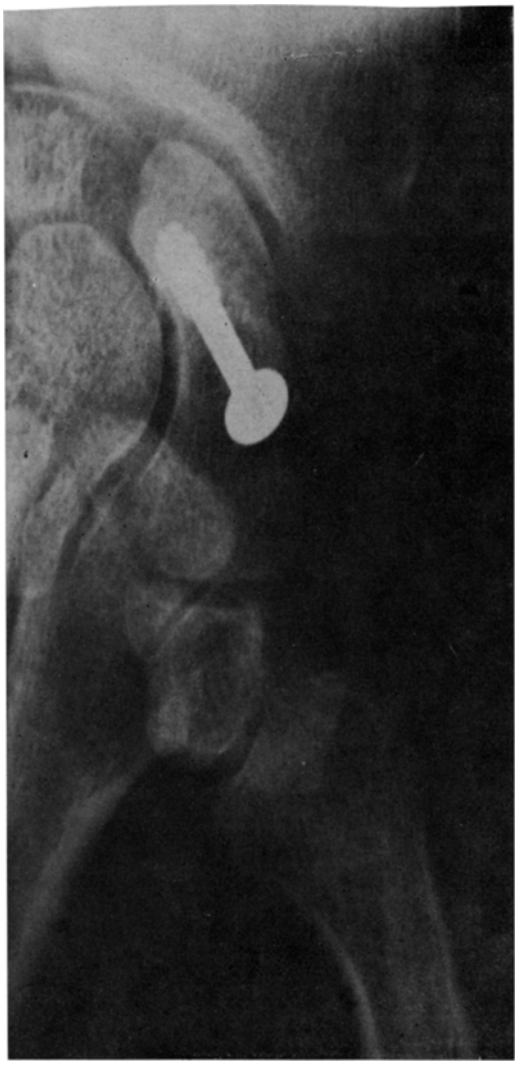

Fig. 6—Radiograph at seventeen months shows healing of fracture and more uniform density through the scaphoid bone.

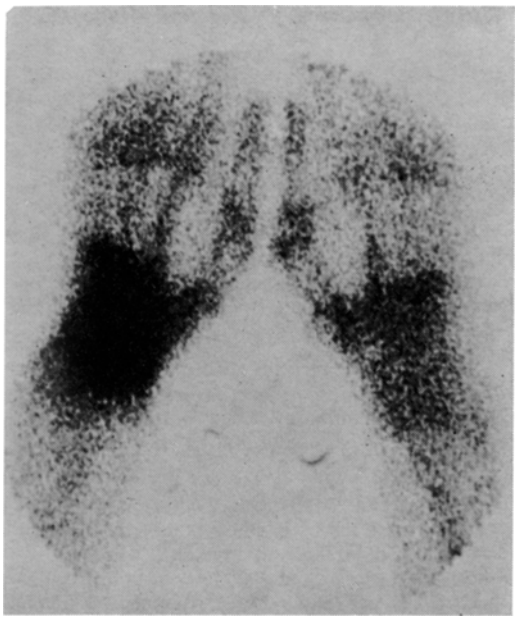

Fig. 7 — Bone scan at nineteen months shows increased osteoplastic activity throughout the carpus without a cold spot.

References

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