

Palmar dislocation of scaphoid and lunate

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Abstract

A palmar dislocation of scaphoid and lunate is uncommon. We have found only 19 reported cases in the literature. We reported a simultaneous, divergent dislocation. The closed reduction followed by percutaneous pinning has given a good result without avascular necrosis of any carpal bone.

Introduction

Fractures and dislocations of the carpal bones usually present as perilunar dislocation. A palmar dislocation of the scaphoid and lunate is a very exceptional injury. Only a few cases have been reported.¹

Case Report

A 40-year-old man injured his right hand when he fell on the outstretched hand while bicycling, radiograph of the wrist showed a palmar dislocation of both scaphoid and lunate (Figures 1 and 2). A closed reduction was performed by a longitudinal traction. Dynamic radiograph of the wrist (ulnar and radial deviation) (Figures 3 and 4) didn't show a scapholunate diastasis, but the nuclear magnetic resonance (NMR) of the wrist showed a rupture of the scapholunate ligament (Figure 5). It was a divergent palmar scapholunate dislocation. The carpal bones were stabilized with a percutaneous K-wire passed from the scaphoid into the lunate, and another one into the triquetrum and lunate (Figure 6). The wrist was immobilized in a long arm cast for 4 weeks. The K-wires were removed at 6 weeks, and then physiotherapy commenced.

At the final follow-up of 1 year, the patient felt only occasional pain. The range of motion of the wrist is 40° in extension, and 60° in

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Figure 1. Radiograph of the wrist: palmar dislocation of scaphoid and lunate.

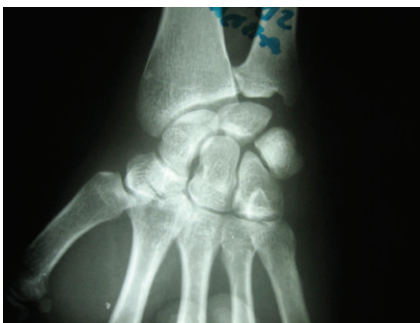


Figure 2. Radiograph of the wrist after closed reduction.



Figure 3. Dynamic radiograph: radial deviation.



Figure 4. Dynamic radiograph: ulnar deviation.

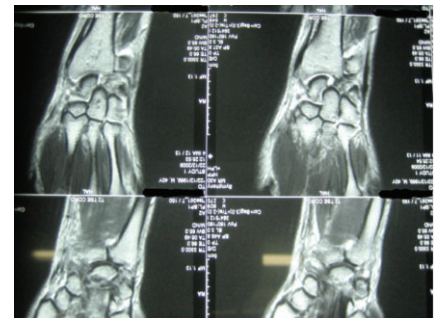


Figure 5. Nuclear magnetic resonance of the wrist.



Figure 6. Percutaneous pinning of scaphoid - lunate and triquetrum - lunate.



Figure 7. Follow-up 1 year: no avascular necrosis of carpal bones.

flexion. The grip strength is 85% of the uninjured side. Radiographs showed no evidence of avascular necrosis of the carpal bones, but a dorsal intercalated segment instability (DISI) deformity was observed. Radiolunate angle was 15°, scapholunate angle was 60° (Figure 7).

Discussion

A palmar dislocation of scaphoid and lunate is uncommon. We have found only 19 reported cases in the literature. In 11 of these cases, the two carpal bones dislocate as a unit.²⁻⁴ The other 8 cases, reported simultaneous, divergent dislocation.^{1,5-7}

The treatment methods of this injury are still controversial. While Kang⁷ recommended percutaneous pinning after open reduction, Baulot⁵ and Komura⁶ recommended repair of the interosseous ligament, by combined palmar and dorsal approaches for repairing ante-

rior and posterior ligaments associated with a stabilization of entire carpum by scaphoid-lunate, lunate-triquetrum and capitate-lunate Kirschner's wires fixation to prevent a carpal instability. In the case reported by Komura,⁶ the scapholunate and lunotriquetral ligaments were sutured through the dorsal approach. In our case the closed reduction followed by percutaneous pinning has given a good result with a good function and mobility of the wrist and without avascular necrosis of any carpal bone, but with a DISI deformity.

For reliable carpal stability, we recommend ligament repair of the scapholunate and lunotriquetral ligaments and temporary joint fixation with Kirschner wires of the carpal bones (scapholunate, lunotriquetral and scaphocapitate joints).

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