

Isolated scaphoid fracture with palmar dislocation of the proximal fragment

Kai Yuen Wong,¹ Phillip Johnston²

¹Department of Plastic Surgery, Addenbrooke's Hospital, Cambridge University Hospitals NHS Foundation Trust, Cambridge, UK

²Department of Trauma and Orthopaedic Surgery, Addenbrooke's Hospital, Cambridge University Hospitals NHS Foundation Trust, Cambridge, UK

Correspondence to

Kai Yuen Wong,
kaiyuen.wong@cantab.net

Accepted 11 June 2015

DESCRIPTION

A 68-year-old right handed man, a bricklayer, fell off a ladder from 6 feet with his left hand trapped in the ladder rungs. X-ray on the day of injury revealed a fracture through the left scaphoid wrist with marked anterior and radial displacement of the proximal fragment ([figure 1](#)). He had no symptoms of median nerve compression and underwent open reduction and internal fixation (ORIF) of the isolated fracture-dislocation under general anaesthesia a day after the injury. Using a palmar approach, the fracture was reduced and fixed with a mini Acutrak 2 headless compression screw (Acumed LLC, Hillsboro, Oregon, USA). Excellent compression was achieved with satisfactory fracture reduction. The scapholunate ligament was irreparable but the radioscapocapitate ligament was repaired. Postoperatively, the wrist was immobilised in a short arm cast for 6 weeks. Five years after surgery, he remains pain-free with full function allowing return to work as a bricklayer despite degenerative change and scapholunate advanced collapse on X-ray ([figure 2](#)).

The scaphoid spans proximal and distal carpal rows and therefore has a role in stabilising the mid-carpal joint during wrist movement. The distal pole is firmly anchored to the scaphotrapezotrapezoidal joint and proximal pole to the lunate by strong ligaments. The radioscapocapitate ligament is sometimes described as an anvil, over which the scaphoid is flexed during forced extension with radial deviation injuries, leading to wrist fractures. Scaphoid fractures are most commonly caused by hyperextension of the wrist, such as a fall on an outstretched hand. We believe the mechanism of injury in our case to be forceful flexion of the hyperextended wrist joint.

Isolated fracture-dislocations of the scaphoid are extremely rare injuries, resulting from high energy trauma. Although we did not use MRI, it can be useful to assess soft tissue injuries and provides the best radiological assessment of avascular necrosis.



Figure 1 (A) Anteroposterior X-ray showing fracture-dislocation of the left scaphoid. (B) Lateral view showing anterior displacement of the proximal fragment.

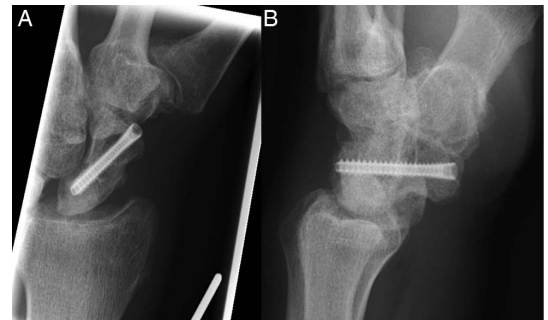


Figure 2 Anteroposterior (A) and lateral (B) X-rays of the left wrist 2 years after the injury showing the scaphoid fixation with some degenerative changes.

There are nine reported cases of scaphoid fractures with anterior dislocation of the proximal fragment in the English literature.¹ Two of these cases were associated with carpal tunnel syndrome requiring surgical decompression.^{2,3} Our case complements current knowledge on the mechanism of injury and we believe ORIF is required for stabilisation to reduce the high risk of non-union.

Learning points

- ▶ Isolated scaphoid fractures with palmar dislocation of the proximal fragment are extremely rare. It is important to exclude injuries of the other carpal bones including carpal intrinsic and extrinsic ligament damage. MRI can be useful for assessing the extent of these soft tissue injuries.
- ▶ Palmar scaphoid dislocations may cause acute median nerve compression. Early recognition is important to allow timely surgical decompression and neurological recovery.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Durand S, MacQuillan A, Delpit X. Isolated scaphoid fracture with anterosuperior dislocation of the proximal fragment. *Chir Main* 2011;30:298–301.
- 2 Kannan A, Khatri D, Trikha V, et al. Isolated volar fracture-dislocation of the scaphoid with acute carpal tunnel syndrome: a case report. *Acta Orthop Belg* 2010;76:552–4.
- 3 Lee DJ, Fechter J, Schnall SB. Old displaced fracture of the scaphoid. An unusual cause of carpal tunnel syndrome. *Orthop Rev* 1993;22:842–4.



CrossMark

To cite: Wong KY, Johnston P. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2015-210333

Copyright 2015 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow