



Volar Dislocation of Trapezoid with Coronal Fracture – A Case Report

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INTRODUCTION

Dislocation or fractures of trapezoid are rare injuries as it is well protected by the osseous architecture of the CMC (carpometacarpal joint).¹

The trapezoid is strongly secured to adjacent carpal bones by intercarpal and interosseous ligaments. Hence, trapezoid dislocations are rare. “However when they do occur, they are more common in the dorsal direction and this is largely due to the bone’s geometry and stronger palmar ligaments which prevents its volar escape.”

1. Calfee RP, White L, Patel A, Stern PJ. Palmar dislocation of the trapezoid with coronal shearing fracture: case report. *J Hand Surg Am.* 2008;33(9):1482-5.

We are describing a volar dislocation with dorsal shear fracture of the trapezoid and associated fracture of the third metacarpal in a young male.

CASE PRESENTATION

A 19-year-old right hand dominant man with history of fall from 12 feet height while flying kite, reported to us with gross swelling in the right hand and transverse superficial laceration over the radial aspect extending up to the dorsum.

As the laceration was only skin deep, it was presumed to be from the thread used to fly kite. There was no evidence of compartment syndrome and the patient was managed with wound care, splintage and limb elevation.

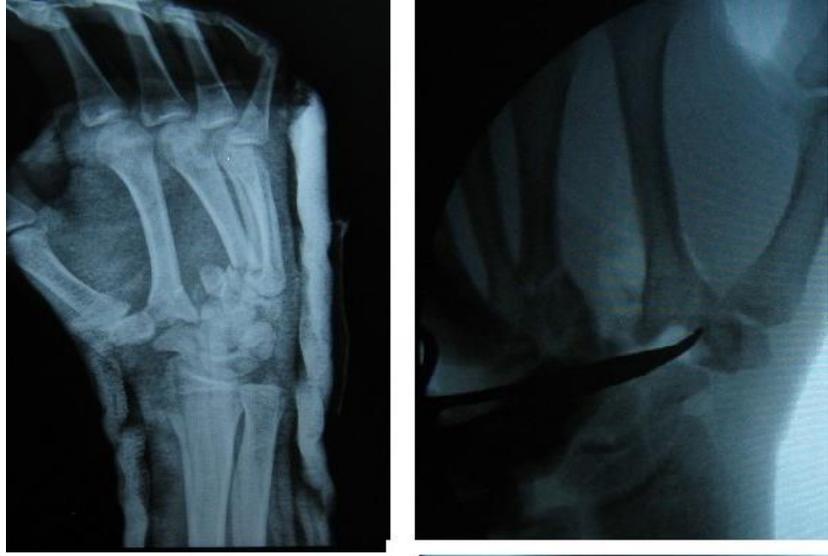


Figure 1

Figure 1: X-rays were done with PA, lateral and oblique views which revealed volar dislocation of the trapezoid with fracture of third metacarpal.

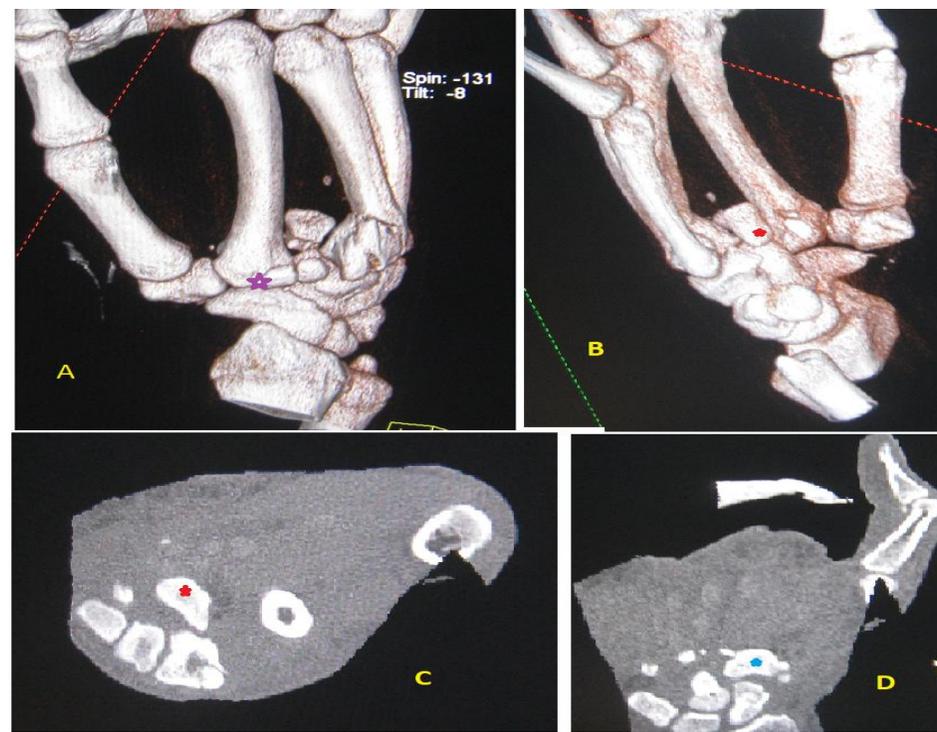


Figure 2

Figure 2: Fracture of trapezoid was confirmed on CT scan with major fragment extruded volarly and the fragment of dorsal cortex lying posteriorly with base of second metacarpal articulating with scaphoid.

SURGICAL PROCEDURE

The patient was planned for open reduction and internal fixation with exploration of the EPL (extensor pollicis longus) tendon as patient had laceration.

EPL tendon was found incarcerated in fibrous tissue at the level of carpus with tendon in continuity. EPL tenolysis was done and retracted radially (Fig. 3). Small dorsal fragment of trapezoid was identified which was attached to scaphoid by dorsal ligament.

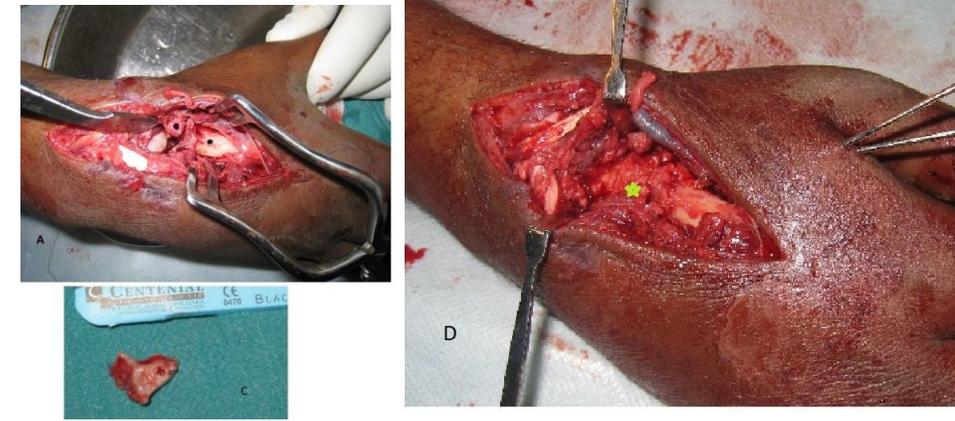


Fig. 3



Fig. 4

The trapezoid was carefully delivered to the dorsal wound using freer elevator. Reduction was achieved which was unstable and thus stabilized with K-wires. The dorsal fragment was fixed to the volar fragment with a 2mm screw (Fig. 4).

DISCUSSION

These type of injuries are difficult to be managed due to lack of availability of literature about the same.

It appears that for the trapezoid to go volar either the dorsal cortex needs to be avulsed (as in our case) or the ligaments need to give way(as in case report by Calfee1).

The fracture united at 5 months with good functional outcome and minimal deformity(Fig. 5)

CONCLUSION

The dorsal fragment with its intact ligaments served as a vascularized bone graft and combined with stable fixation, the fracture dislocation went on to have good healing saving the patient from salvage procedures like excision and limited arthrodesis

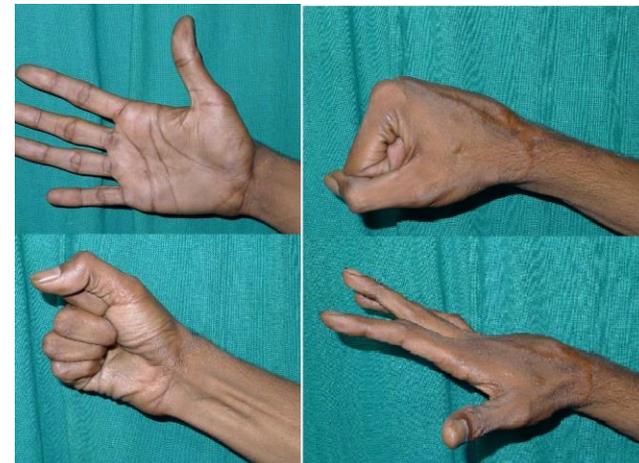


Figure 5