Volar transcaphoid perilunate dislocation; a case report

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Citation

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Abstract

Fractures and dislocations of carpal bones are neglected injuries. Perilunate injuries account for 12% of wrist injuries and dorsal trans-scaphoid Perilunate dislocation account for less than 5%. We hereby report a case of volar trans-scaphoid peri-lunate dislocation in a young SCUBA diver sustained due to fall of cylinder on dorsal aspect of his left hand.

INTRODUCTION

Fractures and dislocations of carpal bones are neglected injuries. Perilunate injuries account for 12% of wrist injuries and dorsal trans-scaphoid Perilunate dislocation account for less than 5%.

CASE REPORT

We hereby report a case of volar trans-scaphoid Perilunate dislocation with an associated fracture of lunate in a SCUBA diver. The patient sustained this injury when the oxygen cylinder he used to carry, fell accidentally onto his wrist hyper-palmar-flexing and ulnar deviating it beyond the limit.

The patient reported to causality of our institution without a significant delay. He had no significant associated injury and was hemo-dynamically stable. On examination his left wrist was grossly swollen and tender. The wrist was grossly unstable and radial pulse was absent. The patient did not have any associated sensory or motor disturbance. Radiographs of wrist were obtained which showed that there was a fracture of scaphoid at its waist and the distal fragment of scaphoid had jetted out of carpus and had come to lie on the dorsal aspect of wrist. Whole of the carpus had dislocated volar to the distal radius but the lunate was still in its place but was rotated towards volar aspect. The lunate was also fractured and volar lip of the bone had come to lie against the capitate.

Figure 1 Figure 1



Figure 2 Figure 2



A proximal row carpectomy was planned on this wrist as patient refused fixation for want of early return to his previous job. The wrist was approached through dorsal transverse incision. At the time of surgery the distal pole of the scaphoid was found just under the extensor retinaculum of the wrist. It was found free of any soft tissue attachments. PRC (Proximal row carpectomy) was done and a transcapitate K-wire was used to fix the carpus to the distal radius. Post operative course remained uneventful. The wire was removed at three weeks and physiotherapy of wrist begun immediately.

Figure 3 Figure 3



Figure 4

Figure 4



DISCUSSION

Perilunate dislocations are high-energy injuries that occur after tremendous amount of force is transmitted to wrist in specific loading position [4]. During a PLD, the ligamentous elements fail in a radial to ulnar direction. In stage I the radio-scapho-capitate and scapho-lunate ligaments are torrn. In stage II the capitate comes out of the concavity of lunate. In stage III luno-triquetral articulation is disrupted. In stage IV radiolunate ligament is torn allowing lunate to dislocate volarly [5]. A slight alteration in position of wrist and force applied will result in injuries that involve other carpal bones.

Volar Perilunate dislocations are produced fall on the dorsum of outstretched hand $[_{23}]$. Forced palmar flexion

drives lunate dorsally due rotation of capitate in its concavity. Scaphoid gets held between chisel shaped distal radius and the carpus and is fractured at its waist. Conservative management yields poor results in this situation [₆₇]. But it will aid in control of pain in the emergency room [₉]. Surgical treatment in form of open reduction and internal fixation of scaphoid is indicated as closed reduction is not only difficult to obtain but also impossible to maintain due to ruptured dorsal ligaments and capsule of wrist joint. Wrist has to be mobilized for at least 10weeks. Reports suggest that results of open reduction are also not good. 50% go on to develop arthritis [₉].

We did not go for internal fixation due to our intra-operative findings. The distal end of scaphoid which was lying below the extensor retinaculum was almost devoid of any soft tissue coverage and so avascular necrosis was bound to occur. Considering this and the wishes of patient we went on to do Proximal Row Carpectomy.

References

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