

Combined Traumatic Volar Lunate And Volar Radiocarpal Dislocation-A Rare In Motorcyclists

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INTRODUCTION:

Combined lunate and radiocarpal dislocation is rare, associated with high energy injury with poor functional outcome. Immediate diagnosis and subsequent appropriate management is essential for better functional outcome.

CASE PRESENTATION:

A 35 year old helmeted motorcyclist presented with right wrist pain and deformity after road traffic accident. His right wrist knocked directly at van's side mirror, while holding motorbike handle in extended position, then hit subsequently onto van driver side door in flexed position.

INVESTIGATIONS:

Right wrist x ray show volar lunate dislocation, Mayfield stage 4, and volar radiocarpal dislocation

TREATMENT:

CMR performed immediately but fail. Open reduction using dorsal approach done under GA. Two scapho-lunate and one luno-triquetrum transfixation wire were inserted. Dorsal scapulolunate ligament was repaired with transosseous suture through scaphoid. Wrist was kept in neutral position post operatively with volar slab, which converted to below elbow cast after wound inspection. K-wires are removed under local anesthesia 6 weeks post operation, and changed to below elbow splint until 12 weeks post operation.

OUTCOME:

Surgical wound well healed on follow up. Disability Arm Shoulder Hand (DASH) score for patient at four months follow up is 2.6, and patient has regained back his right hand normal function.

DISCUSSION:

This lunate dislocation is a pure ligamentous disruption injury, typically happens with wrist in hyperextension¹. Whereas pure radiocarpal dislocation without radial styloid fracture typically result from shear and rotational force². In this patient, our postulation was combination of wrist hyperextension injury during initial impact with subsequent shearing and rotational force as patient hand was

trapped by the handle while body shifted forward, lead to combined volar lunate and volar radiocarpal dislocation. Emergency CMR decrease the risk of median nerve and cartilage damage. Repair of torn ligaments needed. Overall outcome however, unlikely return to full function.

CONCLUSION:

Combined lunate and radiocarpal dislocation is rare, as involving different mechanism of injury. Emergency CMR and splinting, followed by appropriate operation are needed for better outcome.

REFERENCES:

1. Andrew D. Person, William J. Brady, Theodore E. Keats, et al. Orthopedic Pitfalls in the ED: Lunate and Perilunate Injuries. Am J Emerg Med 2001;19:157-162.
2. Dumontier C, Meyer ZU, Reckendorf G. Radiocarpal Dislocation, Classification and Proposal for Treatment, a review of 27 cases. J Bone Joint Surgery Am, 2001;83-A(2):212-218.



Figure 1 Right Wrist X-Ray On Arrival



Figure 2 Right Wrist X-Ray Post Open Reduction and Kirschner Wire Insertion



Figure 3 Right Wrist X-Ray Post Removal of Kirschner Wire