



Lunate Dislocation Followed by Non-Traumatic Swimming: A Case Report

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Abstract

A few numbers of patients admitted to the emergency department due to the lunate dislocation can cause a direct injury to the wrist ligament, which mainly occurs after wrist trauma, and often diagnosis is far from the mind. A 32 years old man due to severe pain and tenderness of the wrist started the previous day during swimming, referred to Emergency Department of Imam Reza Hospital of Mashhad, 2012. He did not recall any history of direct trauma to the wrist. However, he was prescribed NSAID and wrist splint, but the pain did not improve. In physical examination, the localized tenderness of the dorsal wrist without erythema and warmth was clearly evident and paresthesia of the skin was observed in the 4th and 5th fingers. Plain X-ray detected no fractures. The combination of these signs and symptoms prompted clinical suspicion of lunate dislocation confirmed by imaging. This patient was admitted to the orthopedic service with lunate dislocation diagnosis for the proper treatment.

Keywords: Lunate dislocation, Diagnosis, Median nerve injury

Introduction

Dislocation is one of the severe instabilities in the wrist bones; this type of injury is not very common but its proper management is crucial (1). A few number of patients admitted to the emergency department (ED) due to the upper extremities trauma suffer from the wrist bones dislocation that their complain is pain and swelling in the dorsal wrist (2).

The majority of such injuries usually occurs following the wrist straight trauma and also in most cases is missed to be diagnosed properly. This injury usually occurs in gymnastic athletes when falling while their hand pressed under the body, manifesting with severe wrist pain. Early diagnosis and treatment is important for this type of dislocation (3).

Case report

A 32 years old man due to severe pain and tenderness of the wrist referred to Emergency Department of Imam Reza Hospital of Mashhad, 2012. He informed that the pain started the previous day during swimming. He was first referred to his family physician and due to probable diagnosis of ligament injury, NSAID and wrist splint was prescribed. However, the pain did not improve and the patient was referred to our department for further investigation. The patient did not recall any history of direct trauma to the wrist. In the physical examination, the localized tenderness of the dorsal wrist without erythema and warmth was clearly evident. In the physical examination paresthesia of the skin was observed in the 4th and 5th fingers. Plain X-ray for the patient deter-

mined the wrist dislocation without any fractures and Informed consents were obtained from the Participant.

Discussion

Lunate dislocation mainly occurs after wrist trauma and often diagnosis is far from the mind. Lunate dislocation can also cause a direct injury to the wrist ligament. Thus, the most of wrist ligament injuries occur in hyperextension and Deviation of the Wrist to Ulnar bone. In most cases the lunate is displaced in a volar direction and in association with median nerve neuropathy (4).

In PA X-ray wrist, due to overlap of lunate and capitates a triangular sign or piece of pie view is observable. In the lateral view, the lunate appears as spilled-teacup. In case of lack of diagnosis and early treatment, this injury might lead to chronic wrist pain and reduce the normal wrist function (5). Fixation of the wrist by splint in the case of complete dislocation is essential to prevent median nerve injury. The definitive treatment is surgical fixation, to perform ligament repair and fixation by orthopedic pin (4), in some cases arthroscopy is used for diagnosis and treatment (3).

Although the dominant mechanism for the lunate dislocation is compression of hand under the body (due to outstretched) which cause wrist hyperextension with high energy, but in literature review there are case reports denoting that the low energy trauma also might induce this carpal dislocation (6).

Thus, emergency physicians in each case with wrist trauma history and current tenderness complain should think to lunate and Peri-lunate dislocation beside more common fractures (5). In terms of absence of diagnosis and prompt treatment, might lead to complications such as carpal tunnel syndrome, degenerative joint disease or avascular necrosis (2).

In mentioned patient, despite he did not have a history of severe and direct trauma of the wrist, probably due to latent wrist ligament injury; a low energy trauma of the wrist had induced the lunate dislocation during the swimming. This injury presented with tenderness of the dorso-radial surface of the wrist and paresthesia of the fourth and fifth fingers of the same hand due to median nerve injury. The combination of these signs and symptoms prompted clinical suspicion of lunate dislocation confirmed by imaging.

This patient finally was admitted to the orthopedic service for the proper treatment.

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References

1. Ogunlusi JD, Rose SBS, Davids T (2008). Lunate and Perilunate Dislocations: Our Experience. *Int J Orthop Surg*, 8.
2. Tintinalli J, Kelen G, Stapczynski J (2003). Physicians ACE. *Emergency Medicine: A Comprehensive Study Guide 6th edition*. McGraw-Hill Education.
3. Marx JA, Hockberger RS, Walls RM, Adams J, Rosen P. *Rosen's emergency medicine: concepts and clinical practice*. Mosby/Elsevier.
4. Moore D (2002). Lunate Dislocation (Perilunate dissociation). *Orthobullets*. Available at: URL: <http://dev.orthobullets.com/hand/6045/lunate-dislocation-perilunate-dissociation>.
5. Perron AD, Brady WJ, Keats TE, Hersh RE (200). Orthopedic pitfalls in the ED: lunate and perilunate injurie. *Am J Emerg Med*, 9(2):57-62.
6. Alt V, Sicre G. Dorsal (2004). transscaphoid-transtriquetral perilunate dislocation in pseudarthrosis of the scaphoid. *Clin Orthop Relat Res*, 426: 35-37.