IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 24, Issue 7 Ser.4 (July 2025), PP 01-04
www.iosrjournals.org

A Rare Case of Chronic Trans-Scaphoid Lunate Dislocation in a 27-Year-Old Male: A Case Report

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Abstract:
Trans-scaphoid lunate dislocation is a rare and severe form of wrist injury typically resulting from high-energy trauma. Delayed diagnosis and inappropriate treatment can lead to chronic pain, instability, and long-term functional impairment. We report a rare case of a 27-year-old male with a trans-scaphoid lunate dislocation, presenting two months post-injury with persistent wrist pain. The patient had initially received osteopathic care without relief. He was successfully managed with open reduction and internal fixation (ORIF) using Kirschner wires (K-wires). This case highlights the importance of timely diagnosis and surgical management in such injuries.

Keywords: ***Trans-scaphoid lunate dislocation,Carpal dislocation,Wrist injury,Delayed presentation,Open reduction and internal fixation (ORIF),Kirschner wires (K-wires),High-energy trauma,Carpal instability, Chronic wrist pain,Orthopedic case report***

Date of Submission: 02-07-2025 Date of Acceptance: 12-07-2025

I. Introduction:

Perilunate and lunate dislocations are uncommon but severe injuries to the wrist, often resulting from high-energy trauma. Among these, trans-scaphoid lunate dislocation represents a complex carpal injury involving both dislocation and fracture. Delayed presentation complicates management and increases the risk of complications such as avascular necrosis, carpal instability, and post-traumatic arthritis. Early identification and appropriate surgical intervention are critical to restore anatomical alignment and preserve wrist function.

II. Case Presentation:

A 27-year-old male presented with persistent right wrist pain and restricted motion for the past two months. He had sustained the injury following a skid and fall from a motorcycle. Initially, he was managed conservatively with osteopathic manipulation (four times), with no symptomatic relief.

On examination, there was swelling on the dorsum of wrist, tenderness over the dorsum of the wrist, and restricted range of motion at wrist, particularly in extension and flexion. Grip strength was diminished.


Fig. 1


Fig. 2


Fig. 3


Fig. 4

Fig. 1 : Range of dorsiflexion pre-operatively
Fig. 2 : Range of palmarflexion pre-operatively
Fig. 3 : Range of ulnar deviation pre-operatively
Fig. 4 : Range of radial deviation pre-operatively

Investigations
- Plain radiographs of the right wrist antero-posterior/lateral view : revealed a trans-scaphoid lunate dislocation with associated scaphoid fracture.
- CT scan of right wrist : showed a displaced fracture through the waist of the scaphoid and volar dislocation of the lunate. No signs of avascular necrosis were evident at the time of imaging.

Fig. 5

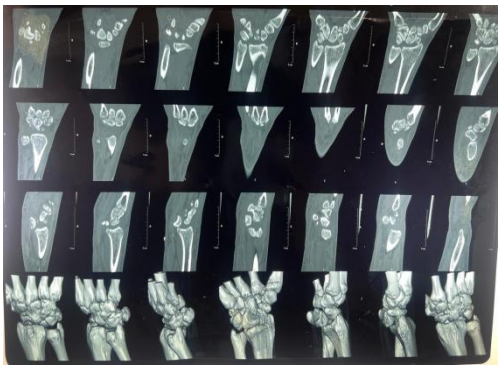

Fig. 6

Fig. 5 : Xray of right wrist antero-posterior and lateral views showing scaphoid fracture and perilunate dislocation.

Fig. 6 : CT scan of right wrist showing scaphoid fracture and perilunate dislocation with deformity.

Management:
The patient was taken up for surgical intervention. Open reduction and internal fixation (ORIF) was performed. The scaphoid fracture was reduced and fixed with K-wires. The lunate was also reduced and stabilized with additional K-wires.
Post-operatively, the wrist was immobilized in a below elbow extended volar cock-up slab. The patient underwent regular follow-ups and serial imagnings. After 6 weeks of follow-up k-wires were removed and patient was started on physiotherapy program after radiographic evidence of healing.

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Fig. 7 : Range of palmarflexion post-operatively
Fig. 8 : Range of dorsiflexion post-operatively
Fig. 9 : Range of ulnar deviation post-operatively
Fig. 10 : Range of radial deviation post-operatively

Fig. 11

Fig. 12

Fig. 11 & 12 : Post-operative (Day 0) X-ray right wrist antero-posterior & lateral views showing satisfactory reduction of lunate dislocation with k-wires insitu.

Fig. 13

Fig. 13 : Post-operative (after 6 weeks) x-ray right wrist antero-posterior & lateral views showing lunate in its anatomical position with scaphoid union in progression.

III. Discussion:

Trans-scaphoid lunate dislocations are uncommon and frequently missed during initial evaluation, especially in polytrauma or in low-resource settings. Delay in diagnosis, as in this case, can lead to chronic pain and disability. The chronic nature of the injury complicates reduction due to soft tissue contractures and early degenerative changes. Surgical intervention remains the mainstay of treatment, aiming to restore carpal alignment, stabilize the fracture and dislocation, and prevent long-term complications. ORIF with K-wire fixation is a standard approach in such cases and can yield good functional outcomes if performed before irreversible damage occurs.

IV. Conclusion:

Proximal radioulnar synostosis, though rare, should be suspected in patients with lifelong limitation of forearm rotation and no history of trauma. Accurate diagnosis using imaging and appropriate surgical planning can significantly improve functional outcomes. Early intervention with meticulous surgical technique and interposition grafting can restore a functional range of motion and enhance quality of life. The combined approach of osseous bridge excision, interposition grafting, and tension band wiring provided both structural stability and minimized recurrence risk, leading to a favorable functional outcome with improved range of motion in the affected limb.

References:

[1]. Herzberg G, Comtet JJ, Linscheid RL, Amadio PC, Cooney WP 3rd, Stalder J. Perilunate dislocations and fracture-dislocations: a multicenter study. J Hand Surg Am. 1993;18(5):768-79.

[2]. Inoue G, Tamura Y. Management of trans-scaphoid perilunate fracture-dislocations: Herbert screw fixation versus K-wire fixation. J Hand Surg Br. 1997;22(5):544-8.

[3]. Sotereanos DG, Mitsionis GI, Giannakopoulos PN, Malizos KN. Perilunate dislocation and fracture-dislocation: a critical analysis of the volar-dorsal approach. J Hand Surg Am. 1997;22(1):49-56.

[4]. Garcia-Elias M. Carpal instabilities and dislocations. Hand Clin. 2006;22(4):485-500.

[5]. Lunate dislocation and fracture: imaging and treatment update. Bain GI, Watts AC. Curr Rev Musculoskelet Med. 2012;5(3):188-94.

[6]. Kamolz LP, Trankenschuh W, Haslik W, Grampp S, Frey M. Mid-term results of perilunate dislocation and fracture-dislocation treated by ORIF. Acta Orthop Belg. 2004;70(4):293-8.

[7]. Takase K, Imakiire A. Clinical and radiological results of delayed treatment of trans-scaphoid perilunate fracture-dislocations. J Hand Surg Eur Vol. 2008;33(4):439-44.

[8]. Messina A, Van Overstraeten L, Fourneau I. Long-term outcome after perilunate dislocation: the role of time to treatment. Arch Orthop Trauma Surg. 2020;140(10):1509-16.

[9]. Majeed H, Kumar K, Khan H. Functional results of K-wire fixation for perilunate fracture-dislocations. Orthop Traumatol Surg Res. 2013;99(6):705-11.

[10]. Cooney WP, Linscheid RL, Dobyns JH. Scaphoid fractures - problems of diagnosis and treatment. Orthop Clin North Am. 1980;11(3):381-93.