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= Abstract =

Volar Perilunate Dislocation

- A case report -

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Perilunar dislocation is not a common injury. When it occurs it is usually dorsal. Only a few isolated cases have been reported of volar perilunar dislocation, in which the capitate is displaced volar to the palmar flexed lunate. Like its more common dorsal counterpart, volar perilunate dislocation usually requires either a concomitant fracture of the scaphoid or scapholunate dissociation. Many authors have been proposed the mechanism of injury, forced hyperflexion, hyperextension with supination of the forearm and violent trauma with extensor tendon rupture. The diagnosis is most easily made on the lateral view. Closed reduction using finger-trap traction should be the initial step in management. Although successful treatment has been reported with a closed reduction alone, open reduction is probably indicated in most cases to align and stabilize the bones. We are reporting on a patient of volar perilunar dislocation without a fracture of the scaphoid or scapholunate dissociation of the right hand associated with extensor tendon rupture.

Key Words : Volar Perilunate Dislocation

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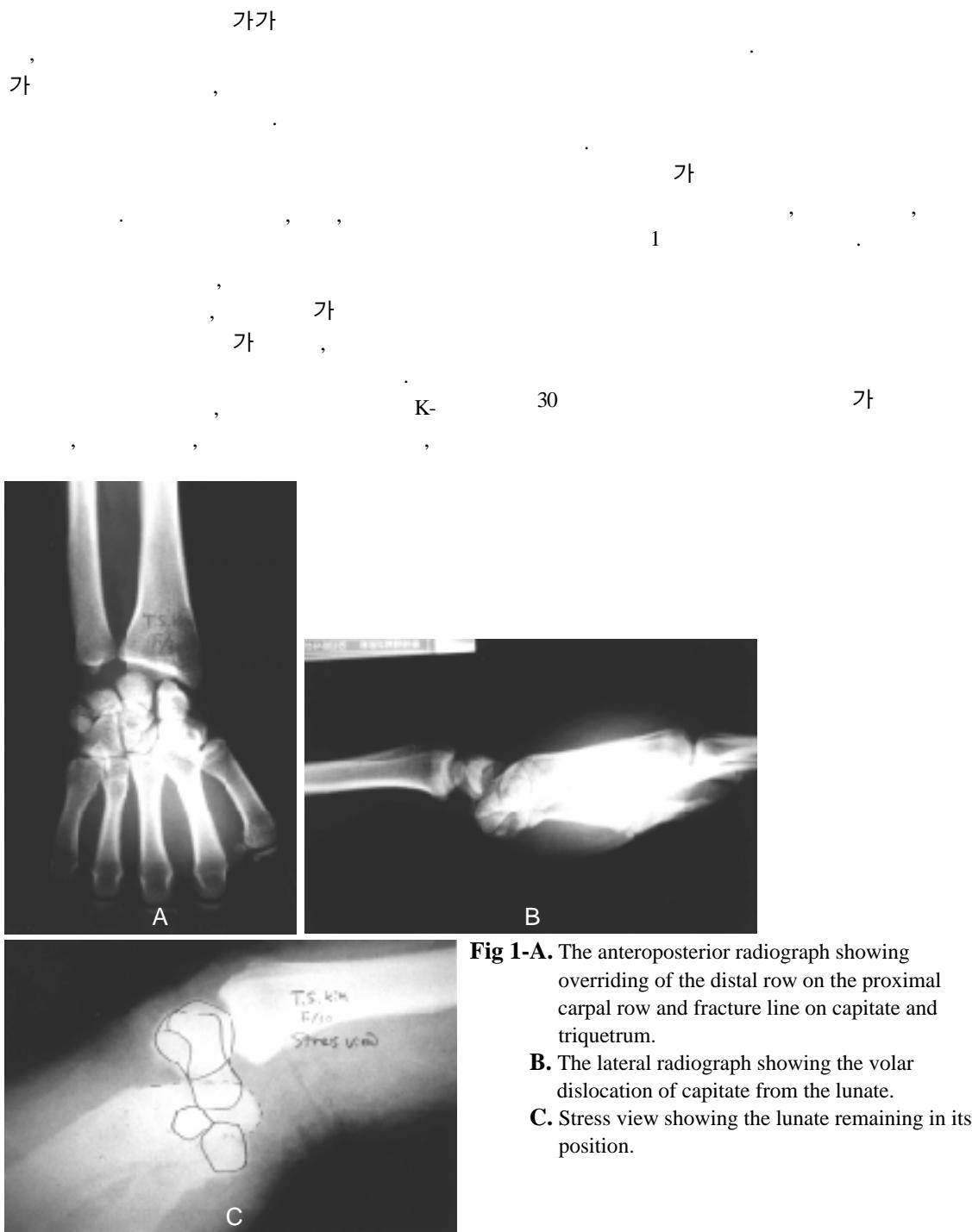
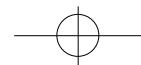
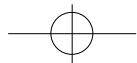


Fig 1-A. The anteroposterior radiograph showing overriding of the distal row on the proximal carpal row and fracture line on capitate and triquetrum.

B. The lateral radiograph showing the volar dislocation of capitate from the lunate.

C. Stress view showing the lunate remaining in its position.



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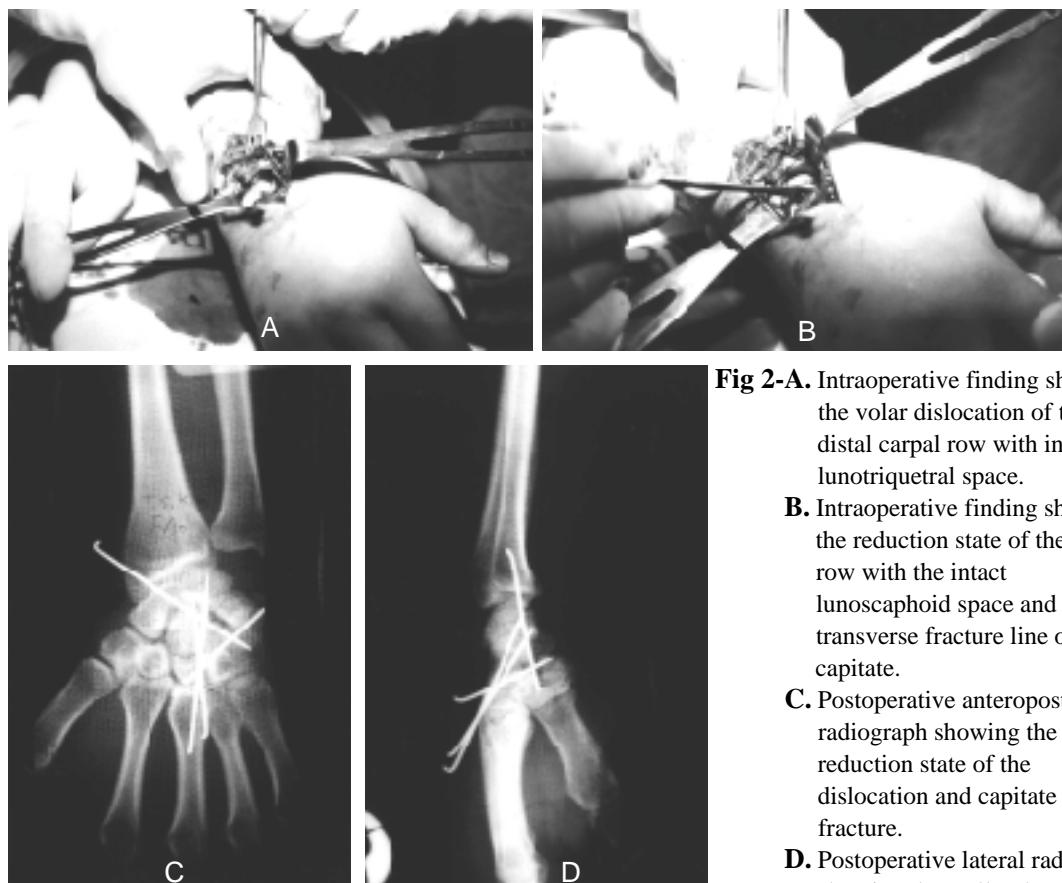


Fig 2-A. Intraoperative finding showing the volar dislocation of the distal carpal row with intact lunotriquetral space.

B. Intraoperative finding showing the reduction state of the distal row with the intact lunoscaphoid space and transverse fracture line of the capitate.

C. Postoperative anteroposterior radiograph showing the well reduction state of the dislocation and capitate fracture.

D. Postoperative lateral radiograph showing the well reduced carpal bones with scapho-trapezoidal space widening.



Fig 3-A. The anteroposterior radiograph at 1 year after the operation showing the good alignment of the carpal bones without the evidence of the arthritis or carpal dislocation.

B. The lateral radiograph at the 1 year after the operation showing the normal lunocapitate and lunoscaphoid angle with the normal scaphotrapezoid space.

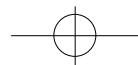


Table 1. Cases reported of volar perilunar dislocation (first author, published year).

	Transscaphoid volar perilunar dislocation	Volar perilunar dislocation with intact scaphoid
2, 3	Aitken (1960)	MacAusland (1944)
가	Campbell (1964)	Dunn (1972)
,	Weiss (1970)	Pournaras (1979)
,	Woodward(1975)	Minami (1989)
(Fig. 1).	Morawa (1976)	
,	Green (1980)	
, 3	Saunier (1981)	
K-	Fernandes (1983)	
,	Foster (1985)	
,	Schwartz (1986)	
	Moon(1994)	

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(extrinsic ligament)

(dorsal capsule)

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(Fig. 2).

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(Table 1).

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Aitken Nalebuff²⁾

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O'Brien 가

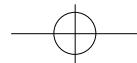
, Green
(Fig. 3).Green O'Brien⁷⁾

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Minami¹³⁾Schwartz¹⁸⁾Campbell³⁾ Saunier Chamay¹⁶⁾Morawa¹⁴⁾Mayfield¹²⁾Green O'Brien⁷⁾Foster⁶⁾ Schwartz¹⁷⁾Chamay¹⁶⁾

Saunier

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carpal sign

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Klein Webb⁸⁾

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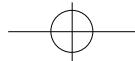
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REFERENCES

- 1) , , , : - , 29: 1192-1198, 1994.
- 2) **Aitken AP and Nalebuff EA** : Volar transnavicular perilunar dislocation of the carpus. *J Bone Joint Surg*, 42-A:1051-1057, 1960.
- 3) **Campbell RD Jr, Lance EM and Yeoh CB** : Lunate and perilunar dislocations. *J Bone Joint Surg*, 46-B:55-72, 1964.
- 4) **Dunn AW** : Fractures and dislocations of the carpus. *Orthop Clin North America*, 52:1513-1538, 1972.
- 5) **Fernandes HJA, Koberle G, Ferreira GHS and Camargo JN Jr** : Volar transscaphoid perilunar dislocation. *Hand*, 15:276-280, 1983.
- 6) **Foster RJ** : Dorsal dislocation of the lunate. *Am Soc Surg Hand Corr News*, 1985:8, 1985.
- 7) **Green DP and O'Brien ET** : Classification and management of carpal dislocations. *Clin Orthop*, 149:55-72, 1980.
- 8) **Klein A and Webb LX** : The crowded carpal sign in volar perilunar dislocation. *J Trauma*, 27:82-84, 1987.
- 9) **Lowrey DG, Moss SH and Wolff TW** : Volar dislocation of the capitate. *J Bone Joint Surg*, 66-A:611-613, 1984.
- 10) **MacAusland WR** : Perilunar dislocation of the carpal bones and dislocation of the lunate. *Surg Gynec and Obstet*, 79:256-257, 1944.
- 11) **Marya SKS, Khurana JS and Dave PK** : Volar perilunar dislocation of the carpus- a case report. *Injury*, 18:357-358, 1987.
- 12) **Mayfield JK, Johnson RP and Kilcoyne RK** : Carpal dislocations:Pathomechanics and progressive perilunar instability. *J hand Surg*, 5: 226-241, 1980.
- 13) **Minami A, Ogino T and Hamada M** : Rupture of extensor tendons associated with a palmar perilunar dislocation. *J hand Surg*, 14-A:843-847, 1989.
- 14) **Morawa LG, Ross PM and Schock CC** : Fractures and dislocations involving the navicular-lunate axis. *Clin Orthop*, 118:48-53, 1976.
- 15) **Pournaras J and Kappas A** : Volar perilunar dislocation. A case report. *J Bone Joint Surg*, 61-A:625-626, 1979.
- 16) **Saunier J and Chamay A** : Volar perilunar dislocation of the wrist. *Clin Orthop*, 157:139-142, 1981.
- 17) **Schwartz GB** : A volar transscaphoid perilunate fracture. *Orthop Rev*, 15:97-100, 1986.
- 18) **Schwartz MG, Green SM and Coville FA** : Dorsal dislocation of the lunate with multiple extensor tendon ruptures. *J hand Surg*, 15-A:132-133, 1990.
- 19) **Weiss C, Laskin RS and Spinner M** : Irreducible trans-scaphoid perilunate dislocation. A case report. *J Bone Joint Surg*, 52-A:565-568, 1970.
- 20) **Woodward AH and Neviser RJ** : Radial and volar perilunate transscaphoid fracture dislocation. Case report. *South Med J*, 68:926-928, 1975.