

- 2 -

. . #

1 #

## Thoracic Fracture-Dislocations Without Spinal Cord Injury - Two Cases Reports -

Dong Eun Shin, M.D., Seung Yong Rhee, M.D., Hak Sun Kim, M.D.#

*Department of Orthopaedic Surgery, Bundang CHA Hospital, College of Medicine,  
Pochon CHA University, Yonsei University#, Korea*

### - Abstract -

Thoracic fracture-dislocations reportedly lead to an 80% incidence of complete paraplegia. Thus, thoracic fracture-dislocations without cord injury are uncommon. There are a few cases of thoracic fracture-dislocations in which the neural sparing status was associated with separation of the posterior spinal structures, such as the pedicles and laminae. The authors experienced two cases of thoracic fracture-dislocations without spinal cord injury: one was a 50-year-old man who fell from the fourth floor of a building and sustained a T6-7 fracture-dislocation; and the other was a 43-year-old man who was involved in motorcycle accident and sustained a T12 fracture-dislocation. Segmental spinal instrumentation and fusion without open reduction was performed in each of the two cases and there has not been any abnormality detected on neurological examination at a minimum follow-up period of 2 years.

**Key Words:** Thoracic fracture-dislocation, Segmental spinal instrumentation and fusion, Neural sparing

13)

13)

, .  
2  
. .

2.5)

Address reprint requests to

**Hak Sun Kim, M.D.**

Department of Orthopaedic Surgery, Youngdong Severance Hospital, Yonsei University College of Medicine

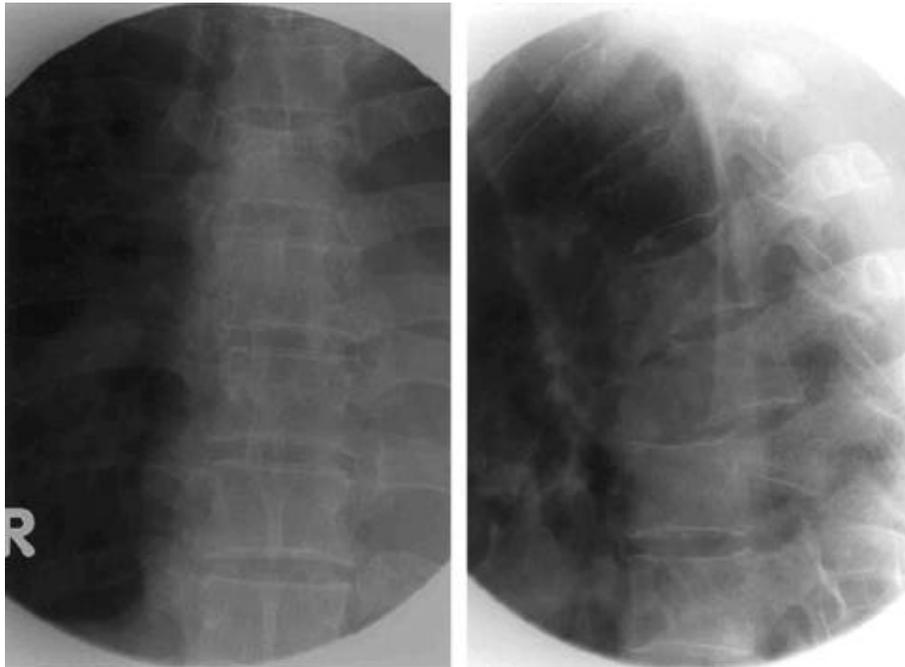
#146-92 Dogok-dong, Gangnam-gu, Seoul, Korea

Tel: 82-2-2019-3411, Fax: 82-2-573-5393, E-mail: haksunkim@yumc.yonsei.ac.kr

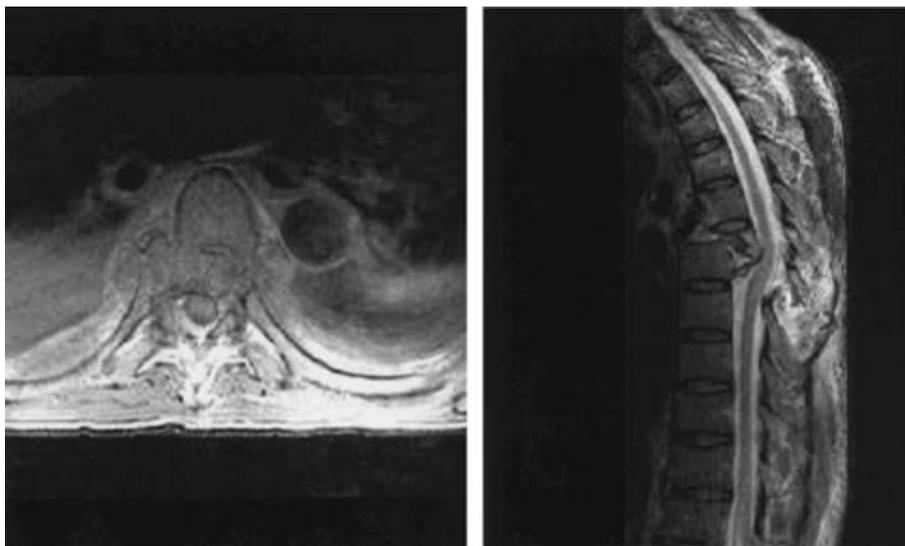
\*

2005

1  
50  
가  
4  
(Fig. 1),  
2). 11  
6, 7  
,  
6  
5-10  
(Fig.

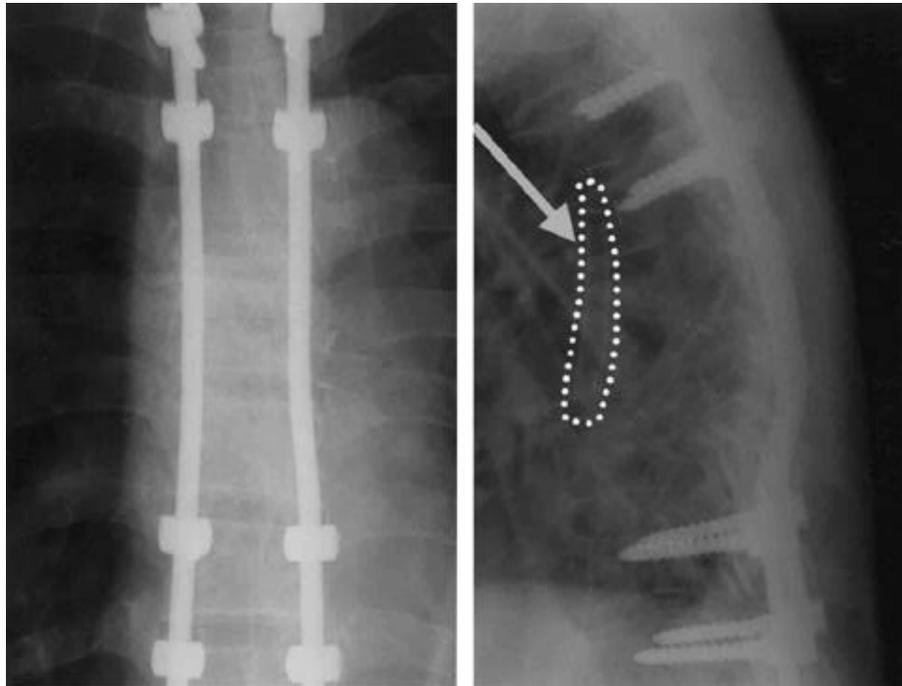


**Fig. 1.** Anteroposterior and lateral radiographs showing fracture-dislocation of T6/T7.



**Fig. 2.** Preoperative CT scans and MR images showing translational displacement of the body of T6, shearing off the neural arch with bilateral pedicle fracture.

(CD horizon )  
(Fig. 3).  
18 7 . 2  
6 5-7  
(Fig. 3). 4



**Fig. 3.** Postoperative anteroposterior and lateral radiographs after a posterior fusion (T5-T10) and anterior fusion(T5-T7, arrow).



**Fig. 4.** Anteroposterior and lateral radiographs showing fracture-dislocation of T12.

2

43



Fig. 5. Preoperative CT scans and MR images of T12 show translational separation of T12 vertebral body.

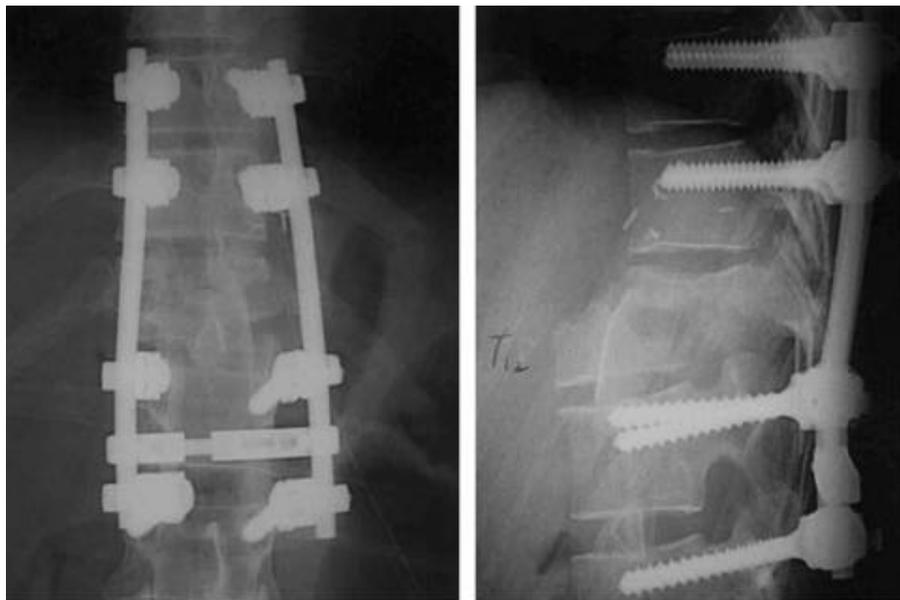


Fig. 6. Postoperative anteroposterior and lateral radiographs after posterior and anterior fusion.

12  
(Fig. 4),  
12  
(Fig. 5).  
(Fig. 5). 10  
- 2  
12 - 2  
(Fig. 6).  
3  
Holdsworth<sup>9)</sup> 가  
가  
Shapiro <sup>13)</sup> 1987  
3%가  
Bohler<sup>1)</sup> 가  
가

“ arch )”

(saving fracture of the neural

<sup>1)</sup>.

Bruke<sup>3)</sup>

<sup>6)</sup>, Roaf<sup>12)</sup>

가

<sup>13)</sup>.

가

<sup>13)</sup>.

가

가

가

6

9

<sup>7,9)</sup>,

<sup>7)</sup>, Miyasaka <sup>11)</sup>

halo-

<sup>2,4,5,10,13)</sup>,

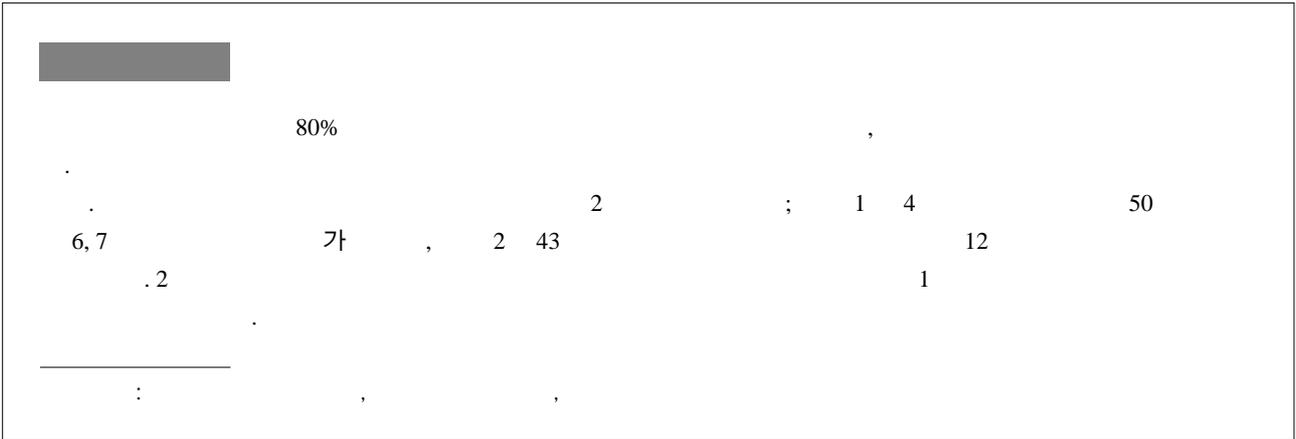
<sup>11)</sup>.

<sup>13)</sup>,

*Frieden und im Kriege, voll, 9th-11th ends. Maudrich, Berlin, 1943.*

- 2) **Bohlman H, Freehafer A, Dejak J:** *The results of treatment of acute injuries of the upper thoracic paralysis. J Bone Joint Surg, 1985; 67: 360-369.*
- 3) **Burke DC:** *Hyperextension injuries of the spine. J Bone Joint Surg 1971; 53: 3-12.*
- 4) **Dekutoki M, Conlan S, Saliccioli G:** *Spinal mobility and deformity after Harrington rod stabilization and limited arthrodesis of thoracolumbar fracture. J Bone Joint Surg 1993; 75: 168-176.*
- 5) **Denis F:** *The three column spine and its significance in the classification of acute thoracolumbar spinal injuries. Spine 1983; 8: 817-831.*
- 6) **Denis F, Burkus JK:** *Shear fracture-dislocation of the thoracic and lumbar spine associated with forceful hyperextension (lumberjack paraplegia). Spine 1992; 17: 156-161.*
- 7) **Hanley E, Eskay M:** *Thoracic spine fracture. Orthopedics 1989; 12: 689-696.*
- 8) **Holdsworth F:** *Fractures, dislocations, and fracture-dislocations of the spine. J Bone Joint Surg 1970; 52: 1534-1551.*
- 9) **Liljenqvist U, Halm H, Castro W et al:** *Thoracic fracture-dislocation without spinal cord injury: a case report and literature review. Europ Spine J 1995; 4: 252-256.*
- 10) **Magerl F, Aebi M, Gertzbein S, et al:** *A comprehensive classification of thoracic and lumbar injuries. Europ Spine J 1994; 3: 184-201.*
- 11) **Miyasaka Y, Satomi K, Sugihara S, et al:** *Posterior fracture-dislocation of the thoracic spine without neurologic deficit. A case report and short literature review. Spine 1993; 18: 2351-2354.*
- 12) **Roaf R:** *A study of the mechanics of spinal injuries. J Bone Joint Surg 1960; 42: 810-823.*
- 13) **Shapiro S, Abel T, Rodgers RB:** *Traumatic thoracic spinal fracture dislocation with minimal or no cord injury. Report of four cases and review of the literature. J Neurosurg(Spine 3) 2002; 96: 333-337.*

1) **Bohler L:** *Die Technik der Knochenbruchbehandlung im*



:

146-92

Tel: 82-2-3497-2019 Fax: 82-2-573-53935 E-mail: haksunkim@yumc.yonsei.ac.kr