

Superior Mediastinal Widening from Traumatic Cerebrospinal Fluid Leak with Spinal Fracture

Kyung Nam Ryu, M.D., Dong Wook Sung, M.D., Sun Wha Lee, M.D., Jae Hoon Lim, M.D.

Department of Diagnostic Radiology, Kyung Hee University Hospital

Superior mediastinal widening on chest radiograph in patients with trauma has been considered the hallmark of mediastinal hemorrhage.

The usual causes of superior mediastinal widening are hematoma, aortic rupture, and rupture of the esophagus or tracheobronchial tree. Very rarely, a cause of superior mediastinal widening is leakage of the cerebrospinal fluid.

This report describes a case of superior mediastinal widening from traumatic cerebrospinal fluid leakage with spinal fracture.

Case Report

A 56-year-old man who was in an automobile accident presented with quadriplegia and sensory change below the C5 dermatome on neurologic examination.

An initial frontal chest radiograph showed superior mediastinal widening without parenchymal infiltration in the lung (Fig. 1).

A myelogram showed a dural tear and obstruction to the flow at the level of C7 (Fig. 2), and extravasation of the myelographic contrast medium into the superior mediastinum was noted on CT (Fig. 3).

Discussion

Superior mediastinal widening after trauma is usually caused by mediastinal injury such as mediastinal or thymic hematoma (1), tracheobron-

chial rupture or fistula, esophageal rupture (2), or traumatic fracture of the upper thoracic or lower cervical spine (3).

When a spinal fracture presents with mediastinal widening, it can mimic the radiographic findings of aortic rupture, but aortic rupture is unlikely in the

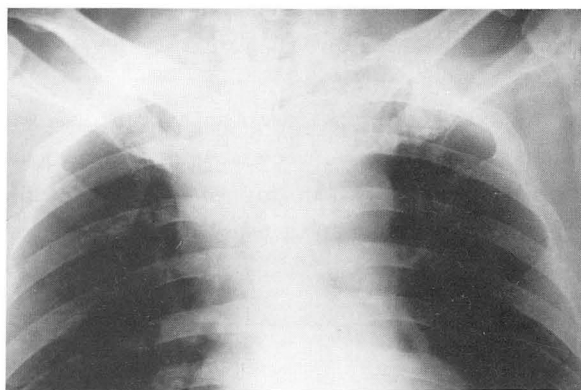


Fig. 1. Initial chest radiograph reveals superior mediastinal widening.

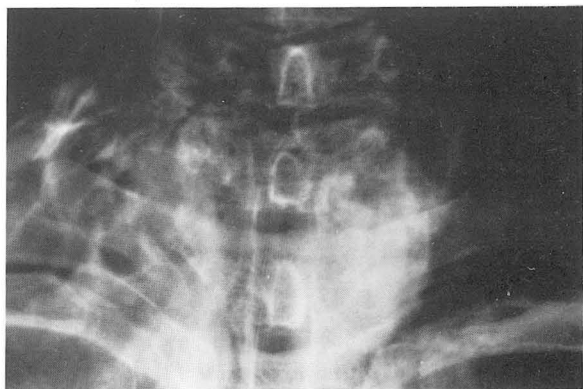


Fig. 2. A myelogram shows blocking of flow at the C7 level and dural tear is suggested with contrast leakage into the superior mediastinum.

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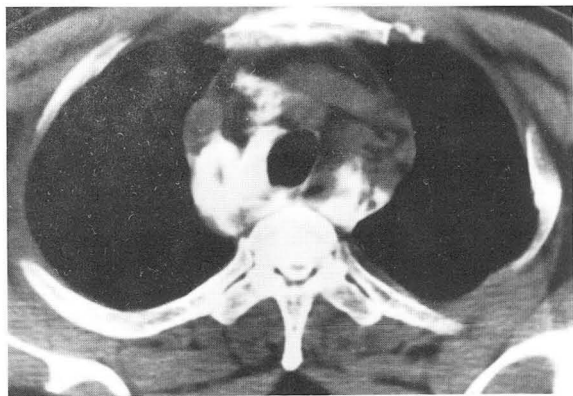


Fig. 3. CT reveals superior mediastinal widening with leakage of myelographic contrast medium.

absence of clinical signs and symptoms that support the diagnosis. Spinal fracture tears the dura that allows cerebrospinal fluid to leak into the superior mediastinum (4). Cerebrospinal fluid leak by dural tear with spinal fracture is a rare cause of superior mediastinal widening.

A previously reported case of superior mediastinal widening from traumatic cerebrospinal fluid leak included 2 pediatric patients from spinal fractures (5). They revealed motor and sensory changes of the ex-

trémities on neurologic examination. Our case revealed no evidence of spinal fracture in radiologic study, but fracture of the right lamina of C7 was seen in operation.

The authors report a rare case of superior mediastinal widening from traumatic cerebrospinal fluid leakage with spinal fracture.

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〈국문요약〉

외상성 뇌척수액 유출에 의한 상종격동 증대

—1예 보고—

경희대학교 의과대학 진단방사선과학교실

류 경 남 · 성 동 욱 · 이 선 화 · 임 재 훈

외상환자에서 상 종격동 증대는 종격동 손상을 고려하여야 하며 이의 원인으로는 대동맥 파열, 식도나 기관의 파열, 또는 척추 골절에 의한 혈종등이 있다. 아주 드물게는 경뇌막 파열로 뇌척수액이 유출되어 상종격동 증대를 초래할 수도 있다. 저자들은 척추골절과 함께 경뇌막 파열에 의한 뇌척수액유출로 상종격동 증대를 초래한 1예를 경험하였기에 문헌고찰과 함께 보고하는 바이다.