

Thoracic Spine Fractures Are Rarely Identified by Chest Radiographs

Most of these fractures can be treated conservatively and are not associated with neurologic sequelae.

To better understand the rate and sequelae of thoracic spine fractures identified in the modern era of liberal computed tomography (CT) scanning of trauma patients, researchers performed a secondary analysis of data from the NEXUS Chest CT study. Patients were blunt trauma victims aged >14 years who received chest imaging (radiographs, CT, or both) at nine trauma centers from 2011 to 2014.

In total, 6308 patients had chest radiographs only, 4501 underwent radiography and chest CT, and 668 underwent CT only. Of 217 (1.9%) thoracic spine fractures identified, 100 (46%) were treated, most with thoracolumbar bracing. Thoracic spine surgery was performed in 23 patients (11% of fractures, 0.2% of the cohort), and neurologic deficits were present in 8 patients (3.8% of fractures). Compared with CT, chest radiographs were only 8.6% sensitive. In follow-up of a 221-patient subset who did not undergo CT, none had a missed significant thoracic spine injury.

COMMENT

About 55% of these patients did not undergo chest CT (by provider's discretion), and none had an important missed thoracic spine injury. It's therefore clear that CT is not routinely required to rule out thoracic spine injury, and if there is suspicion of injury, chest radiographs can't help much. Thoracic spine radiographs were not evaluated in this study, but they are also likely insensitive.

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