

Malpractice Counsel

Commentary by Francis L. Counselman, MD, Associate Editor-In-Chief | Neal E. Flomenbaum, MD, Editor-In-Chief

Failure to Perform Neck Imaging After Motor Vehicle Accident

A 54-year-old Wyoming man was injured while driving a pickup truck for his employer in icy conditions. His vehicle left the road and rolled 3.5 times before coming to rest on its roof. The roof was crushed to the level of the dashboard.

The man complained of neck pain to emergency responders. His neck was braced in a cervical collar and he was placed on a backboard before being taken to a county hospital emergency department, where he was examined by the defendant emergency physician. The patient later claimed that he complained of neck and shoulder pain, but the physician did not examine his neck and ordered neither x-rays nor CT scans of his neck. Rather, imaging of the skull, facial bones, and thoracic spine was ordered.

The patient was discharged and went to the home of a co-worker. Four days later, he felt a sudden jolt of pain throughout his body when he turned his neck in the bathroom. He then experienced extreme pain in his neck and left shoulder and weakness in his left arm. He was taken back to the emergency department, where imaging revealed a comminuted fracture of the C5 vertebra. Surgery was performed.

The plaintiff claimed negligence on the emergency physician's part for failure to scan the cervical spine immediately after his accident. The plaintiff claimed that he had sustained permanent neurologic damage to his left arm.

The defendant denied any negligence and claimed that the plaintiff's condition was the result of a progressive, untreated rotator cuff injury sustained in the accident.

Outcome

According to a published report, a \$7 million verdict was returned for the plaintiff. His wife was awarded \$2 million for loss of consortium.

Comment

The most common cause of spinal cord injury in the United States is motor vehicle accident; teenage and young adult males are the most frequent victims. The emergency physician must consider the possibility of cervical spine injury in all serious motor vehicle crashes (eg, rollover, ejection). Fortunately, we have two excellent clinical decision rules to help us gauge the need for imaging of the cervical spine.

The first is the NEXUS (National Emergency X-Radiography Utilization Study) criteria. To be considered low risk (ie, no need for imaging), the patient must meet all five of the following criteria: a) no midline posterior cervical tenderness; b) no focal neurologic deficit; c) no intoxication; d) normal CNS function; and e) no painful or distracting injury. In this case, we do not know if the clinician ever examined the posterior cervical spine, or if the head and facial bone injuries were serious enough to qualify as a "distracting injury."

The other clinical decision rule is the Canadian C-Spine Rule, which consists of three questions: a) are there any high-risk factors that mandate imaging?; b) are there any low-risk factors that allow safe assessment of range of motion?; and c) is the patient able to actively rotate the neck 45° to each side? Since rollover is one of the "high-risk factors" as defined by this rule, and this patient rolled his pickup truck 3½ times, this patient met the need for an imaging study.

The teaching point in this case is to use one of these clinical decision rules when evaluating a suspected cervical spine injury. They will guide you when to seek imaging and when a patient can be safely discharged from the emergency department without a visit to the radiology department. **FLC**

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