



Symptom-delayed Disruption of Cervical Ligaments with Anterolisthesis in a Mixed Martial Arts (MMA) Fighter

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Case Description

A 24-year-old male MMA fighter landed on his head while taking down an opponent, putting an axial load on the neck in flexed position. He had trace neck and left shoulder pain that subsided immediately. He finished the fight without dysfunction, and ringside exam was unremarkable and without pain.

Clinical Course

He presented 2 days after the fight to outside emergency room with left 5th finger paresthesia and pain in the neck and left shoulder. Exam yielded cervical spine tenderness with normal upper extremity strength and sensation.

Radiographs demonstrated angular kyphosis with narrow anterior disc space and anterolisthesis of C5 on C6.

Clinical Course cont.

MRI revealed disruption of interspinous and supraspinous ligaments and ligamentum flavum at C5-C6, posterior longitudinal ligament elevation, and paracentral disc herniation at C5-C6. Orthopedics placed a Miami-J collar and discharged him to home.

He presented to clinic after wearing the collar 5 days with persistent symptoms. Repeat radiographs demonstrated anterolisthesis had worsened. He was admitted and underwent both posterior and anterior fusion of C5-C6.

Results

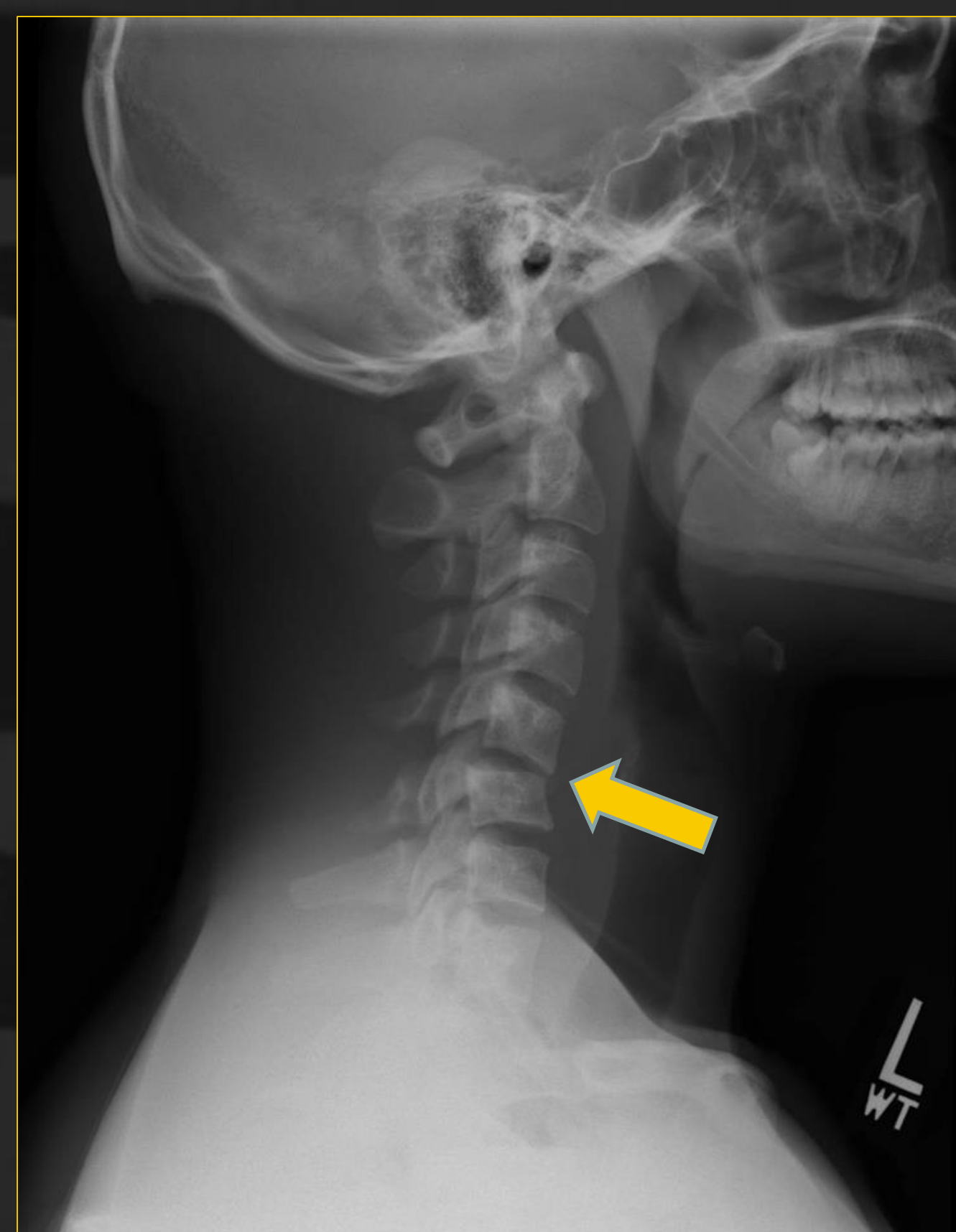
Post-operatively, his pain resolved. The patient had normal strength and normal sensation to light touch and pinprick in bilateral upper extremities.

Discussion

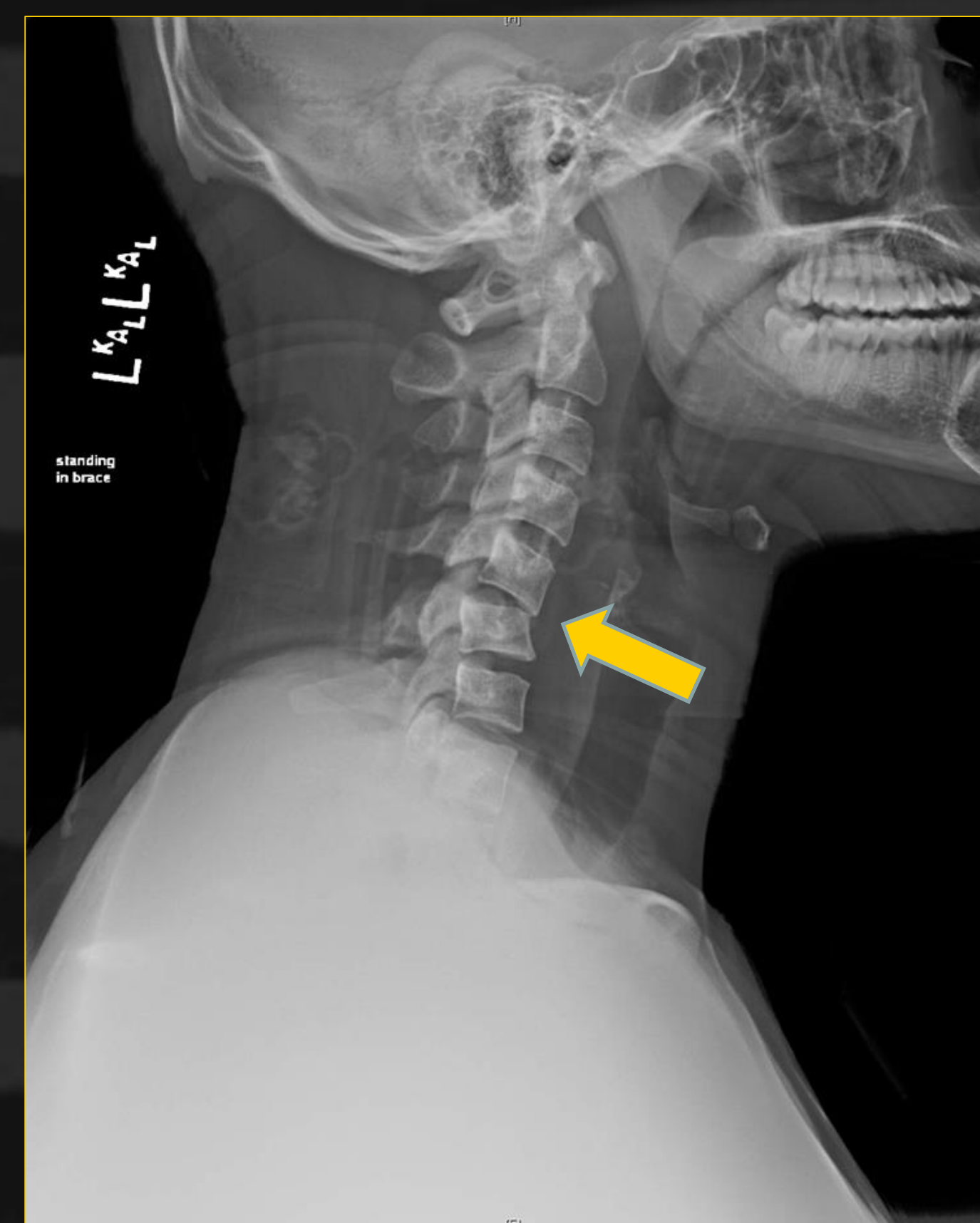
Less than 1% of sports injuries are cervical spine injuries, with the majority of those occurring in football and ice hockey. Cervical injury in an MMA fighter is unusual, and the patient had no neurological symptoms at time of injury. Athletes' symptoms may be distracted by high adrenaline levels during competition, making injury detection by sideline providers difficult.

Conclusion

Not all athletic injuries are initially apparent and may present in sports unlikely for that injury. When providing event coverage, physiatrists should be meticulous when evaluating athletes for injury and should pay attention to mechanism of any possible injury.



Initial radiograph with anterolisthesis



Follow-up radiograph with worsened anterolisthesis



MRI with posterior longitudinal ligament elevation and multi-ligament disruption



Post-operative radiograph