

First Known Case of a Transverse Ligament Tear of the Atlas Without Concomitant Jefferson Fracture in a Pilot

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Case Description

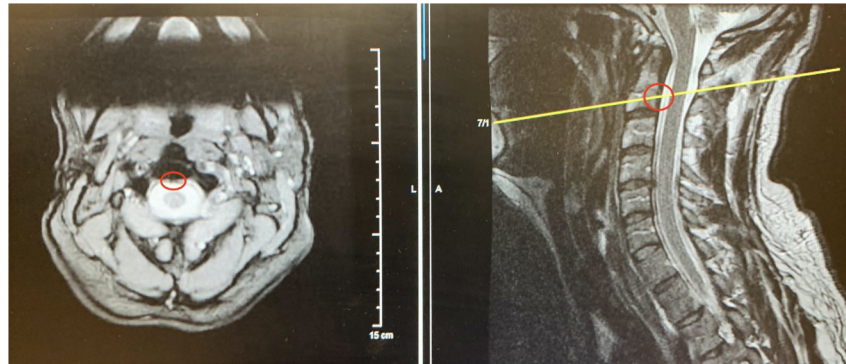
A 44 year-old male pilot presented with acute right-sided neck pain and headaches upon waking during a flight. The patient was sleeping flat on an airline seat and had no noticeable trauma. The pain was exacerbated by looking left and alleviated by pressing on the base of his occiput. Due to aviation regulations, he was not allowed to be diagnosed with migraines or take medications that may cause drowsiness.

Assessment/Results

The patient underwent a bilateral Medial Branch Nerve Block (MBNB) at C1-C2 and bilateral MBNB at C2-C5 (x2). Botulinum toxin injections for headaches and a C1 nerve block were also performed. Although not described during an initial cervical MRI, during a bilateral Radiofrequency Ablation (RFA) at C2-C5, a right intra-articular facet tear at C1-C2 up to the odontoid process was incidentally found under fluoroscopy. This was likely the primary source of his pain, prompting interspinous ligament injections at C1-C4 and right C1-C4 intra-articular facet tissue grafts with mesenchymal cells from bone marrow aspirate concentrate.

Discussion

This case is complex for several reasons: (1) unclear mechanism of injury (2) uncommon injury (3) limitation of prescription medications and (4) lack of data on effective solutions. The vast majority of transverse ligament injuries occur in the context of Jefferson fractures, which this patient did not have.



Conclusion

According to the literature, he would be the second patient to have this type of injury during flight and the first to have it without the concomitant fracture. His job further precludes medication treatment options, thus the effectiveness of procedures is important. What we learn from this patient's outcomes could have a broad impact not only in this rare event, but for those for whom pharmacological treatments are limited.

References

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