



Ossification of the Posterior Longitudinal Ligament: A Myelopathic Challenge Managed Conservatively

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Case Presentation

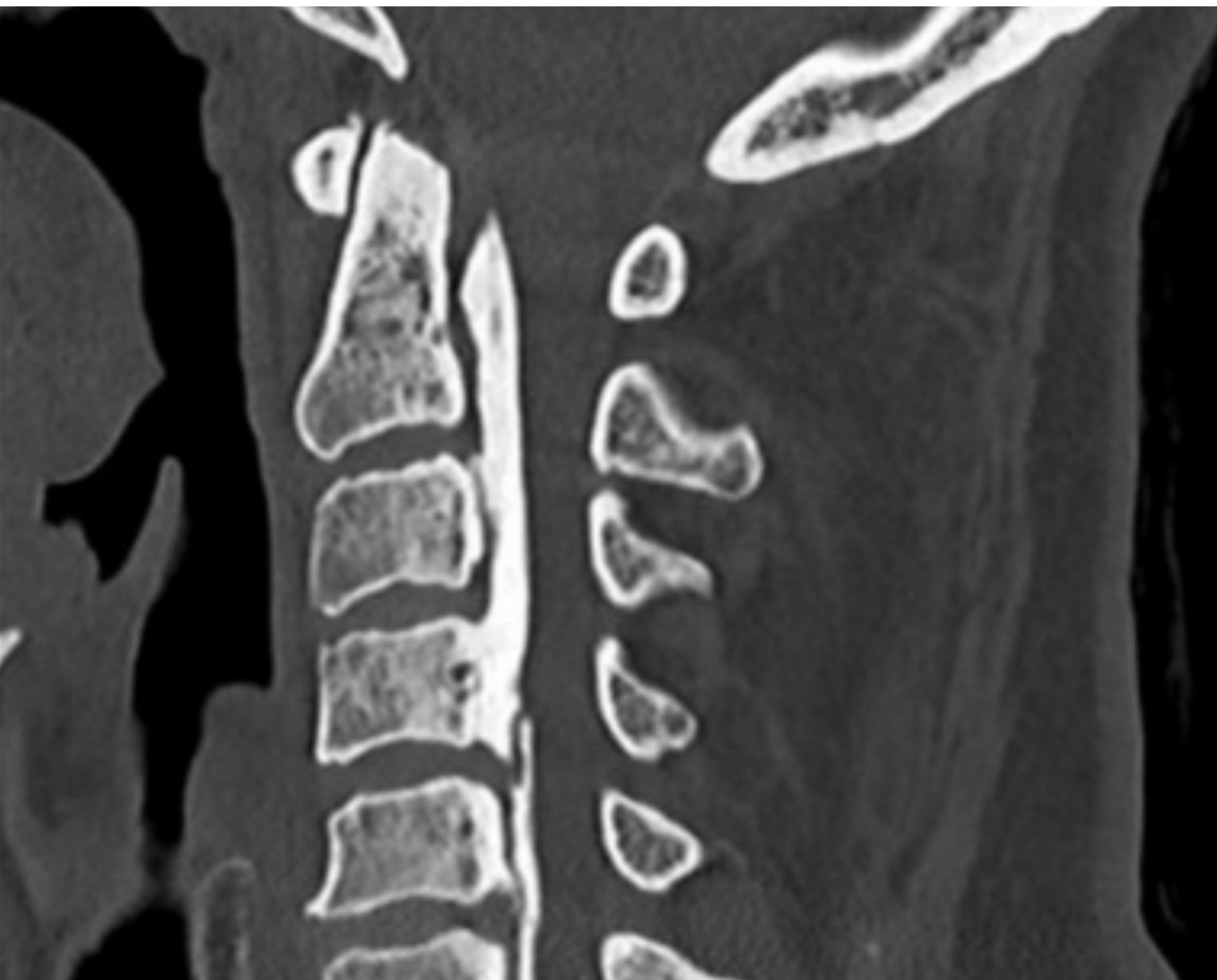
A 73-year-old male presented to the emergency department with three days of left-sided upper and lower extremity weakness and gait instability. Upon physical examination the patient exhibited globally diminished motor strength in the left upper and lower extremities, graded 3-4/5, along with bilateral pronator drift, and positive Hoffman’s and Babinski’s signs. Imaging showed severe multilevel cervical central canal stenosis and right neural foraminal stenosis due to extensive posterior longitudinal ligament (PLL) ossification extending from C1 to T2. The patient was started on intravenous solumedrol and neurosurgery recommended posterior cervical decompression and fusion. However, the patient declined surgical intervention. Physiatry was consulted, and the patient received bedside physical and occupational therapy focused on gait, balance, and activities of daily living (ADL) training. Despite these efforts, the patient ultimately left the hospital against medical advice (AMA), though he was provided with a rolling walker and prescribed outpatient therapy.

References

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2. Smith, Z. A., Buchanan, C. C., Raphael, D., & Khoo, L. T. (2011). Ossification of the posterior longitudinal ligament: pathogenesis, management, and current surgical approaches, Neurosurgical Focus FOC, 30(3), E10. Retrieved Mar 7, 2023, from <https://doi.org/10.3171/2011.1.FOCUS10256>



Examples of mild (above) and severe (below) Posterior Longitudinal Ligament Ossification



Discussion

The posterior longitudinal ligament (PLL) is a fibrous band running along the posterior aspect of the vertebral bodies and intervertebral discs serving to stabilize the spinal column. Ossification of the PLL is an idiopathic condition involving ectopic bone formation within the spinal ligaments which can result in direct ventral spinal cord compression. Ossification initially presents asymptotically, however when the spinal cord is compressed myelopathic symptoms emerge. It is estimated that nearly 25% of patients with cervical myelopathy will have PLL ossification. Diagnosis is best made with CT scan and treatment depends on the severity of symptoms and the degree of ossification. Severe cases require decompression, though in mild cases therapy can serve to promote structural integrity of the spine and delay symptom progression.

Conclusion

This case illustrates a unique myelopathic etiology in which the physiatrist holds an integral role in disease management.