

ACADEMY OF SPINAL CORD INJURY PROFESSIONALS



Schmorl's node as a source of fibrocartilagenous embolus resulting in complete thoracic spinal cord injury

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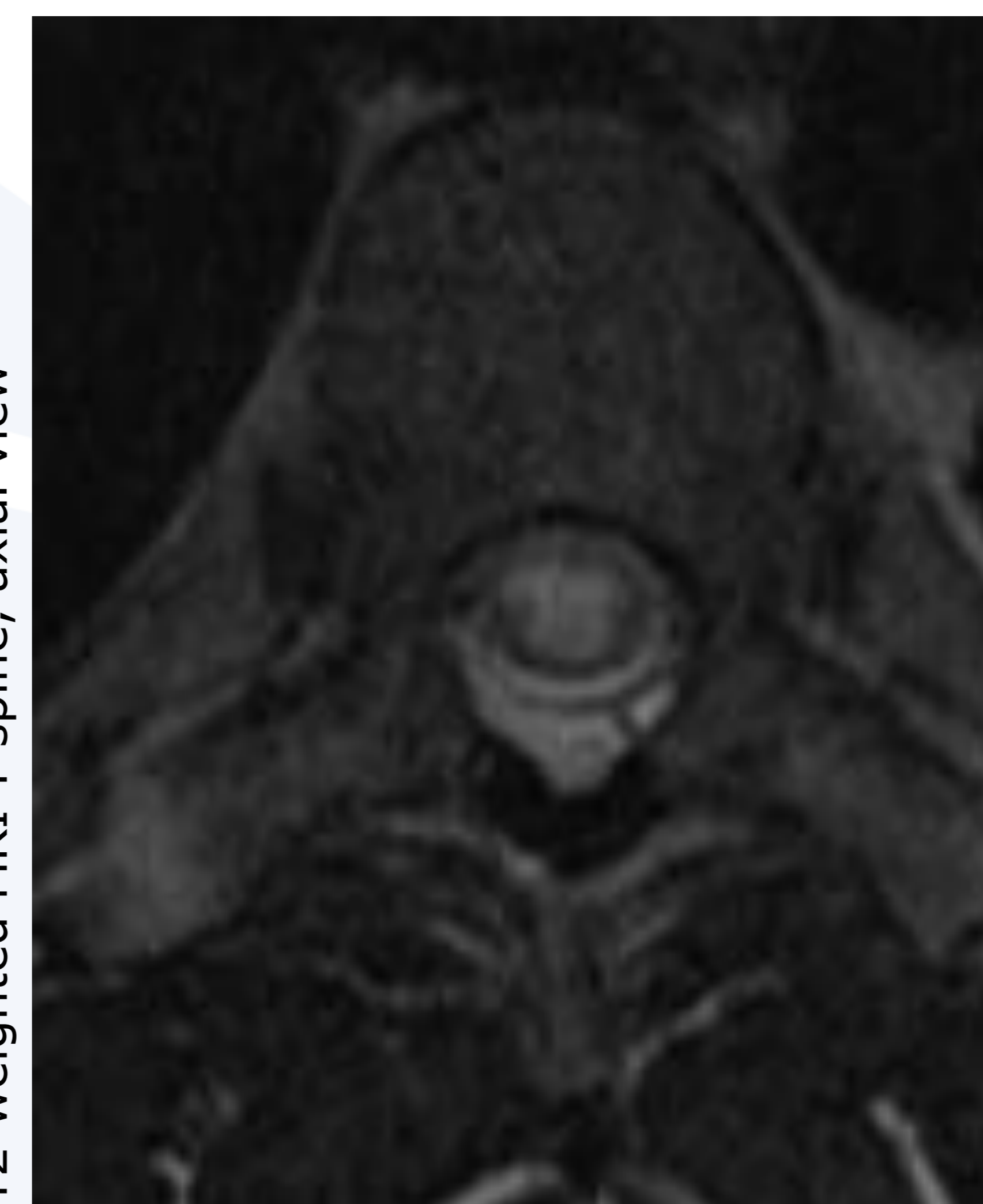
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Context

- 16-year-old male presents with acute onset paraplegia following valsalva
- MRI shows T2 hyperintensity and restricted diffusion of T9-L1 anterior cord concerning for transverse myelitis versus infarct
- No clinical improvement with administration of methylprednisolone
- Laboratory workup unrevealing (CSF studies, infectious workup, thrombophilia studies, and inflammatory markers)
- Further imaging reveals restricted diffusion involving T7 to conus medullaris predominantly involving the ventral cord, most consistent with acute infarct and multilevel endplate irregularities consistent with Schmorl's nodes
- Repeat MRI T/L spine two weeks after initial presentation: re-demonstrates predominantly anterior spinal artery involvement and expected evolution with less prominent DWI changes
- Mechanism of spinal infarct is not determined, but greatest suspicion is embolic etiology from Schmorl's nodes



T2-weighted MRI T-spine, sagittal view



T2-weighted MRI T-spine, axial view

Discussion

- Initial imaging studies indicated the possibility of transverse myelitis versus acute spinal stroke
- Factors favoring ischemic injury as etiology: rapid onset of symptoms, lack of CSF protein, no clinical improvement with steroids, and initial strong diffusion-weighted image changes in the anterior spine which decreased after about 2 weeks following initial symptoms¹
- Infarcts of the spinal cord caused by fibrocartilagenous emboli (FCE) are rare, representing 5.5% of all spinal cord infarcts²
- FCE is typically caused by migration of herniated nucleus pulposus material into vessels supplying the anterior spinal artery³, which is often preceded by trauma
- Symptom onset following Valsalva likely contributed to development of FCE in the absence of trauma in this patient⁴
- While FCE is rare, FCE secondary to Schmorl's nodes is exceedingly rare and not well documented in the literature

Conclusion

- FCE may be confused with transverse myelitis on MRI imaging²
- Clinical history should guide workup for accurate diagnosis
- While FCE is rare, providers should be aware as a differential diagnosis, especially in active patients, those with preceding trauma, or excessive valsalva. Schmorl's nodes are one potential etiology of FCE

References

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