Thoracic perineural cysts as an underrecognized source of spontaneous CSF leak: a case report

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Presentation

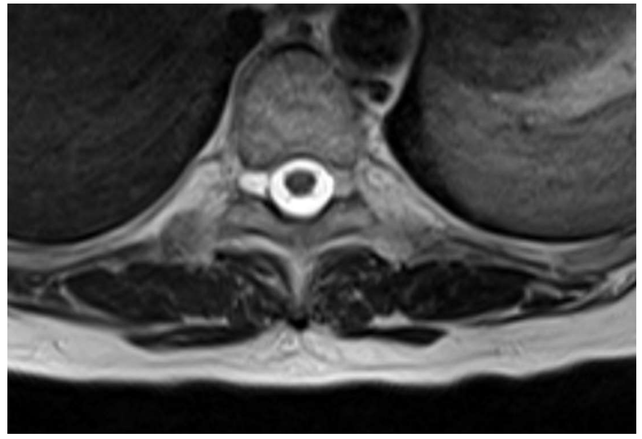
- 63-year-old woman with neck pain after a motor vehicle collision (2015)
- Developed progressive dizziness, imbalance, visual disturbance and headache; atypical, non-orthostatic
- Initially treated with cervical immobilization and isometric exercises: modest benefit and worsening of symptoms prompted further imaging

Diagnostic path and outcome

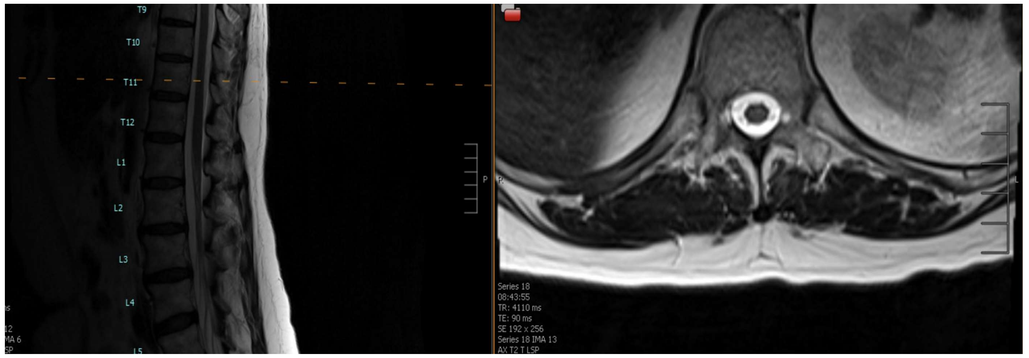
Brain MRI	1.7 cm tonsillar descent with flattening of pons and medulla: Chiari I or intracranial hypotension? Conservatively managed
10/2017	Whole-spine MRI: multiple perineural cysts at several thoracic levels
Lumbar patch ×2	Two epidural blood patches at lumbar level: minimal benefit
MRI Whole spine & CT myelogram	Multiple perineural cysts with adjacent thecal sac irregularity from T7-L1: occult leak site
Thoracic patch	Targeted to cyst-bearing levels: symptoms resolved for months, confirming the diagnosis
Repeat patch	Relief lasting over one year; slow recurrence again resolved with repeat blood patch



Brain MRI: 1.7 cm tonsillar descent



Right Perineural cyst at T9 level



Bilateral Perineural cyst at T11 level

Discussion

1 Tonsillar herniation does not confirm Chiari I malformation

Think spinal CSF leak: clustered thoracic perineural cysts can be the source, and a level-targeted blood patch can both diagnose and treat.

2 Image the whole spine

Equivocal MRI, atypical symptoms and failed conservative therapy should prompt whole-spine imaging before surgery.

3 Cysts can be the leak

Clustered thoracic cysts with thecal sac irregularity are a probable leak source, not an incidental finding, especially after lumbar patch failure.

4 Patch the right level

CT myelogram localizes the leak and guides a level-targeted patch; the response is both diagnostic and therapeutic.

References

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3. Schievink WI. JAMA. 2006;295(19):2286-2296.
4. Houk JL, et al. J Neurosurg. 2022;136(6):1796-1804.
5. Schartz D, et al. J Neurointerv Surg. 2023 (abstract O-036).

Ethics and consent

As this case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per University of Iowa Health Care IRB policy. Patient informed consent was obtained for submission of a case report.