



“I can’t feel my legs”: an atypical presentation of thoracic compressive myelopathy

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Introduction

- Chronic peripheral neurologic symptoms are common and often attributed to poorly-controlled diabetes, alcohol use, vitamin deficiencies or chemotherapy.
- The acute onset of symmetric polyneuropathy, especially in younger patients, is rare and warrants a prompt comprehensive evaluation.

Case Description

- A 25-year-old man with chronic low back pain presented to the emergency room reporting acute bilateral lower extremity numbness progressing to the mid-thigh level over the past 4 days.
- He denied pain, weakness, bowel or bladder incontinence, other abnormal sensations, or injury. He reported rare alcohol use, and denied drug use or history of sexually transmitted infections

Neurologic Exam

- Symmetric sensory loss to light touch, temperature and pressure to the mid-thigh, with normal sensory exam proximal to this level.
- Proprioception was normal.
- Upper and lower extremity strength was normal.
- Lower extremity deep-tendon reflexes were brisk. There was no clonus.
- Cranial nerve exam was normal.

Initial Laboratory Workup

Vitamin B12 / folate	771 pg/mL / >20 ng/mL
Thiamine	213 nmol/L
Complete blood count	Within normal limits
Complete metabolic panel	Within normal limits
HIV screen / Syphilis RPR	Negative
SPEP / UPEP	Within normal limits
Hemoglobin A1c / TSH	5.1 % / 1.92

Diagnostic Workup

- Electromyography** confirmed a bilateral symmetric sensory-only peripheral polyneuropathy isolated to the lower extremities.
- MRI of the lumbar spine** showed chronic degenerative changes at L5-S1 without spinal canal stenosis or neuroforaminal narrowing.
- MRI of the cervical spine** was unremarkable.

A thorough workup including CT chest/abdomen/pelvis, colonoscopy, paraneoplastic lab panel, and autoimmune serologies was unremarkable. The consulting neurologist then noted that an MRI of the thoracic spine had not yet been obtained.

- MRI of the thoracic spine** showed a non-enhancing, T2 hyperintense extradural lesion at T7-T10 which is most consistent with an arachnoid cyst. The lesion causes central canal stenosis at T7.



Figure 1. Axial MRI of T8 segment showing extradural lesion causing central canal stenosis.



Figure 2. Sagittal MRI of thoracic spine shows lesion involving T7-T10.

- He was referred to neurosurgery who performed thoracic spine laminectomy and excision of the mass. Pathologic evaluation of the mass was indeterminate but most consistent with a lipoma. His lower extremity sensation returned to normal within hours after surgery.

Abdominal Reflex Testing

- Superficial reflex involving T7-T12 nerve roots performed by stroking the abdomen near the umbilicus. Muscle contraction towards the umbilicus is a normal reflex.
- Testing was not performed in this case. The sensitivity and specificity of this test are uncertain. Furthermore, normal individuals can have absent reflexes.¹

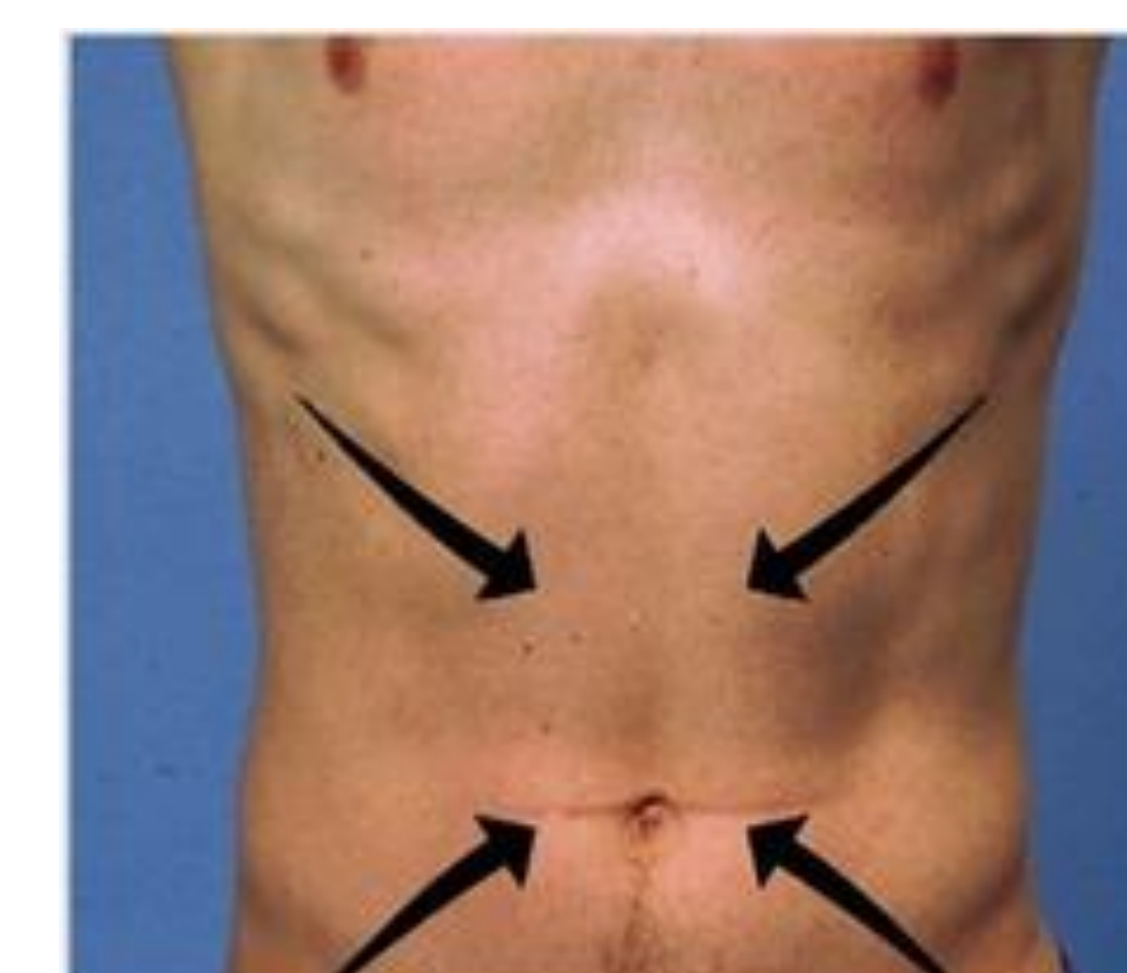


Figure 3. Contraction during abdominal reflex testing.²

Discussion

- This case highlights the importance of a careful neurologic history and examination when evaluating new-onset peripheral neuropathy. The patient’s age and relative lack of comorbidities were immediate red flags for an atypical or more sinister etiology.
- The patient did not exhibit marked ataxia, gait disturbance, or proprioception deficits. His symptoms were atypical for a compressive lesion involving the dorsal column-medial lemniscus pathway. His workup was thus largely focused on systemic causes of neuropathy.
- It is unclear if abdominal reflex testing would have suggested a lower thoracic spinal cord lesion given their uncertain operating characteristics. However, abnormal reflexes may have helped narrow the differential diagnosis earlier.

Teaching Points

- Symptoms of compressive myelopathy may not present in the expected pattern based on the location of a lesion.
- Young patients with few risk factors presenting with neurologic deficits warrants consideration of early advanced imaging.
- Abdominal reflex testing may help inform the decision to obtain advanced imaging in patients presenting with upper or lower extremity neuropathic symptoms

References

- Fujimori et al. The utility of superficial abdominal reflexes in the initial diagnosis of scoliosis. *Scoliosis* 2010
- Superficial and Deep Reflex Testing Memorangapp.com