Calcified thoracic disc herniation with paraparesis

A case report

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We present a case with partially calcified thoracic discs, one of which extruded into the spinal canal with paraparesis. The paste-like consistency complicated excision.

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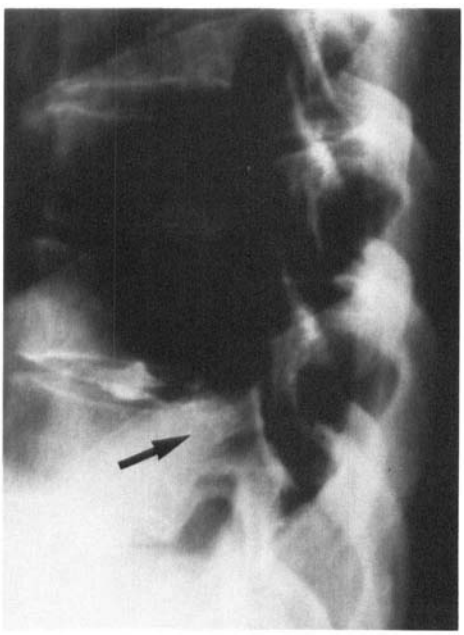
A 43-year-old man had a 5-month history of lumbar muscle spasms after moving furniture at his home. Approximately 1 week prior to presentation, he noted acute onset of numbness from his umbilicus distally. This had progressed to marked numbness distal to his knees, anesthetic feet, and bowel and bladder dysfunction. The patient was then referred to our center.

On presentation he was hyperreflexic in both lower extremities. Slight spasticity was noted on ambulation, though motor strength was intact. Genital and rectal sensation were normal. Plane radiographs showed central intervertebral disc calcifications at the T9–10 and T10–11 levels with posterior extrusion of a portion of the calcified component at the T9–10 level (Figure 1). An MRI scan verified the disc calcifications, and the very large T9–10 herniated component resulting in marked dural displacement and canal compromise. The patient was immediately taken to surgery where a

Figure 1. Central disc calcification at the T9–10 and T10–11 levels.



Lateral radiograph with calcified material in the canal (arrow).

Sagittal T2 weighted MRI scan verifying calcified disc material extrusion into canal and degree of cord compression at the T9–10 level.

left tenth rib thoracotomy was performed. The head of the tenth rib was excised as was the entirety of the T9–10 intervertebral disc. A large defect was noted in the posterior annulus and posterior longitudinal ligament; however, only a white tooth paste-like material was identified, occluding the spinal canal. This material, having the consistency of pâté, required removal in a very slow meticulous fashion with varying-sized small curettes until the cord was fully decompressed. The T10–11 intervertebral disc was subsequently removed. Both levels were then fused with multiple interbody rib struts. The calcified component of the disc was pure calcium hydroxyapatite. A custom fit thoracolumbosacral orthosis was worn for 3 months postoperatively until fusion was complete. Return of bowel, bladder and sensory function was complete; however, mild lower extremity spasticity persisted.

Discussion

Thoracic disc herniation usually occurs in the lower third of the thoracic spine. The majority of posterior thoracic disc herniations are quite small and clinically insignificant, though their incidence may be as frequent as 15 percent of the population (Skubic and Kostuik 1991). Should a significant-sized disc herniation occur, the thoracic spinal cord is at greater risk for damage, since it is bound by the smallest relative diameter portion of the skeletal canal and is served by the most tenuous blood supply of the entire spinal cord (Hollinshead 1969, Dommisse 1975, White and Panjabi 1990). Calcification of a thoracic disc in adults indicates severe degeneration but has not been shown to be altered by disc calcification (Currier et al. 1991). When a clinically symptomatic thoracic disc herniation is present, especially when accompanied by deterioration of neurologic function, surgical intervention is imperative. For a large central herniation, an anterior transthoracic approach provides the clearest visualization of the disc itself and even of the spinal canal and cord. Fusion of the interspace after complete discectomy has been shown to reduce late back pain and deformity (Currier et al. 1991).

References

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