

SPINAL CLAUDICATION DUE TO ANTERIOR DISCO-OSTEO-ARTERIAL CONFLICT MIMICKING STIFF PERSON SYNDROME

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BACKGROUND

Anterior intervertebral disc herniation may cause intersegmental artery compression due to disco-osteo-arterial conflict, a recently recognized rare cause of spinal cord ischemia.¹

CASE DESCRIPTION

A 68-year-old man presented with a 2-year history of severe muscle spasms in the lower back and pelvic region. His symptoms were always precipitated by a predictable period of walking or with sustained erect posture. The patient was ultimately referred to our clinic for evaluation of “treatment-resistant” stiff person syndrome after baclofen and benzodiazepines had no clinical effect. Neurological examination was remarkable only for depressed reflexes in the lower extremities.

PERTINENT INVESTIGATIONS

- Electromyography/nerve conduction studies: normal
- MRI lumbar spine: mild lumbar spondylosis with notable anterior disc degeneration from L1 to L3 (Figure 1A, arrow at L2), and increased T2 signal in the gray matter of the conus medullaris (Figure 1B)
- Spinal digital subtraction angiography: proximal non-ostial stenosis of the left L2 intersegmental artery from which the main anterior radiculomedullary artery (artery of Adamkiewicz, arrow) arose (Figure 2A and 2B)
- Fluoroscopic CT angiogram: bilateral intersegmental arteries at L2-L3 seen coursing superiorly over an anterior disc osteophyte complex (Figure 3A, arrow)

DIAGNOSIS

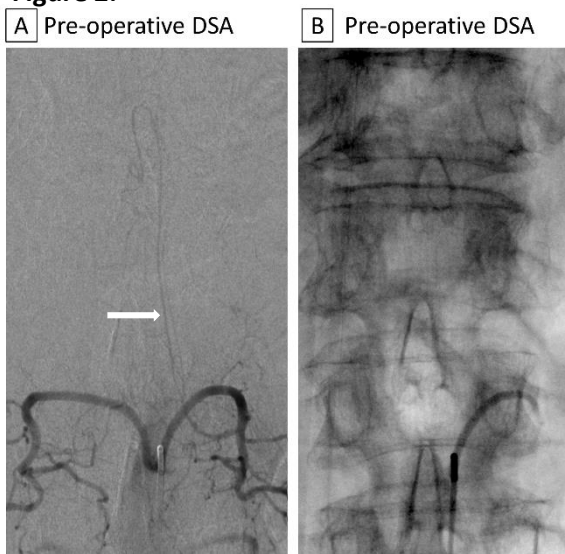
Vascular claudication from degenerative changes at L2-L3 compressing the left L2 intersegmental artery.

¹Ullman N, Gregg L, Becker D et al. Anterior disco-osteo-arterial conflict as a cause of intersegmental arterial flow impairment and spinal cord ischemia. *Neuroradiology* 2016;58(11):1109-1115.

Figure 1:



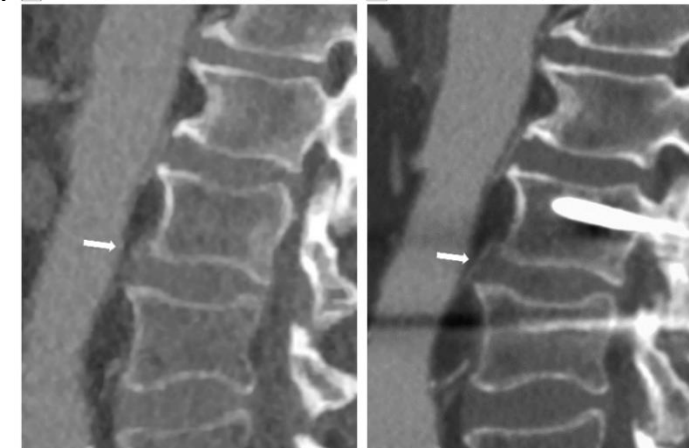
Figure 2:



TREATMENT & OUTCOME

Patient underwent an L2-L3 transforaminal lumbar interbody fusion and immediate post-operative angiogram showed robust flow through both L2 intersegmental arteries (Figure 3B). Six months post-surgery he reported marked improvement in his symptoms and increased exercise tolerance.

Figure 3:



CONCLUSIONS

- Positional and exercise-induced neurological symptoms in the lower extremities and/or pelvic girdle should prompt consideration of dynamic structural or vascular pathology of the spinal cord.
- The intersegmental arteries can be vulnerable to compression from degenerative pathology as they course anteriorly across the intervertebral space.
- Anterior disco-osteo-arterial conflict can resolve with appropriate surgical intervention.