ELSEVIER

The Spine Journal ■ (2014) ■

THE SPINE JOURNAL

IMAGES OF SPINE CARE

Ankylosing spondylitis with idiopathic spinal cord herniation

Idiopathic spinal cord herniation, unlike spinal cord herniation with a known traumatic or postoperative origin, is a relatively rare condition. It was first reported by Wortzman et al. [1] in 1974. Such herniation most often occurs between the T4 and T7 vertebrae, a spinal segment that includes the area of physiologic kyphosis [2]. Brown-Séquard syndrome is the most frequently reported clinical feature [3].

This case is of a 56-year-old man with a 20-year history of ankylosing spondylitis, who presented to our clinic with progressive numbness and weakness in right lower limb since 2 months.

This is an exemplar case of idiopathic spinal cord herniation, in which magnetic resonance image shows an acute, anterior kink of the spinal cord at the L1 level, the apex vertebrae of kyphosis, and an enlargement of the dorsal subarachnoid space without any apparent filling defect (Figure, A). Cerebrospinal fluid flows in the subarachnoid space posterior to the herniated spinal cord (Figure, B). This feature may allow the differentiation of spinal cord herniation from an arachnoid cyst [4]. The herniated spinal cord produces an arch calcific lesion in the posterior L1 vertebrae in computed tomography images (Figure, C and D).

References

[1] Wortzman G, Tasker RR, Rewcastle NB, Richardson JC, Pearson FG. Spontaneous incarcerated herniation of the spinal cord into a vertebral

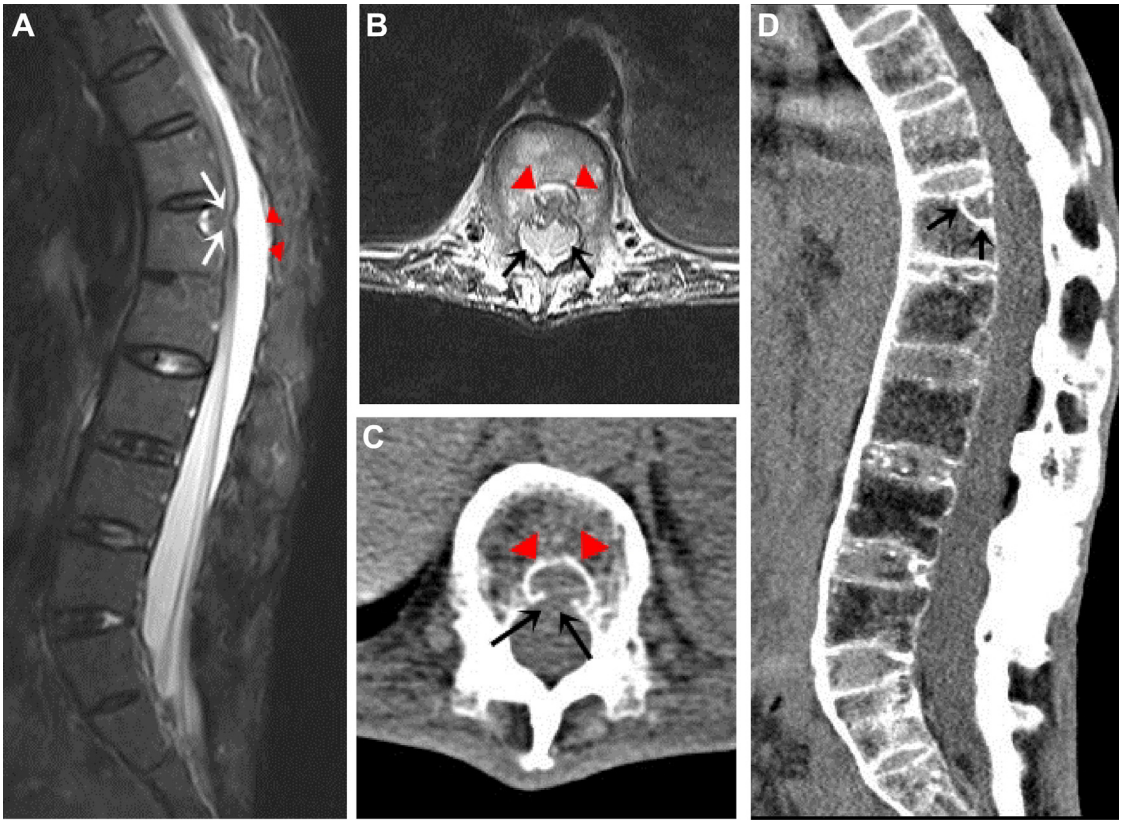

Figure. (A) Sagittal T2-weighted magnetic resonance imaging (MRI) shows an acute, anterior kink of the spinal cord at the L1 level (arrows) and an enlargement of the dorsal subarachnoid space without any apparent filling defect (arrowheads). (B) Axial T2-weighted MRI through L1 vertebrae clearly shows left anterolateral portion of the cord protruded into the vertebral body (arrowheads) and increased cerebrospinal fluid turbulence (arrows). (C) Axial computed tomography (CT) image shows left anterolateral portion of the cord herniated into the posterior L1 vertebrae (arrows) and compressed an arch calcification (arrowheads). (D) Sagittal reformatted image from CT shows an arch calcific lesion in the posterior L1 vertebrae (arrows).

http://dx.doi.org/10.1016/j.spinee.2014.10.024

body: a unique cause of paraplegia. Case report. J Neurosurg 1974;41:631–5.

[2] Tekkök IH. Spontaneous spinal cord herniation: case report and review of the literature. Neurosurgery 2000;46:485–91. discussion 491–2.

[3] Massicotte EM, Montanera W, Ross Fleming JF, Tucker WS, Willinsky R, TerBrugge K, et al. Idiopathic spinal cord herniation: report of eight cases and review of the literature. Spine 2002;27:E233–41.

[4] Brugieres P, Malapert D, Adle-Biassette H, Fuerxer F, Djindjian M, Gaston A. Idiopathic spinal cord herniation: value of MR phase-contrast imaging. AJNR Am J Neuroradiol 1999;20:935–9.

Hongxiang Gao, MD
Xueju Li, MD
Cunping Wang, MD
Department of Orthopaedics
Zaozhuang Municipal Hospital
41 Longtou Road
Zaozhuang, Shandong, China

FDA device/drug status: Not applicable.

Author disclosures: ***HG:*** Nothing to disclose. ***XL:*** Nothing to disclose. ***CW:*** Nothing to disclose.