ELSEVIER

The Spine Journal ■ (2014) ■

THE SPINE JOURNAL

IMAGES OF SPINE CARE

Swelling of a lumbar spinal nerve root mimicking an intraspinal mass lesion on preoperative magnetic resonance imaging

A 59-year-old man presented with 1-year history of low back pain along with progressive pain and numbness in the right lower extremity. Physical examination showed muscle weakness (Grade 4/5) of the right extensor hallucis longus with decrease in light touch sensation over right L5 dermatome. Reflexes were intact in both legs. Magnetic resonance imaging revealed a right-sided intraspinal mass-like lesion at the level of L5 in addition to the lateral recess stenosis at the L4–L5 intervertebral level because of hypertrophied ligamentum flavum (Fig. 1). The imaging differential diagnosis included sequestered disc herniation, synovial cyst, epidural varix, and tumor such as schwannoma and neurofibroma. After partial L4–L5 hemilaminectomy and resection of hypertrophied ligamentum flavum using spinal microendscope, we tried to find an intraspinal mass-like lesion but it was not observed. After meticulous exploration of the intraspinal canal, nothing could be found except remarkable swelling of the right L5 nerve root (Fig. 2) that seemed to be an intraspinal mass lesion on preoperative magnetic resonance imaging. We confirmed that we could decompress the right L5 nerve root well in this operation. Postoperatively, the patient's symptoms resolved completely.

It is well known that the chronic compression of neural structures can cause inflammation. Rare cases with swelling

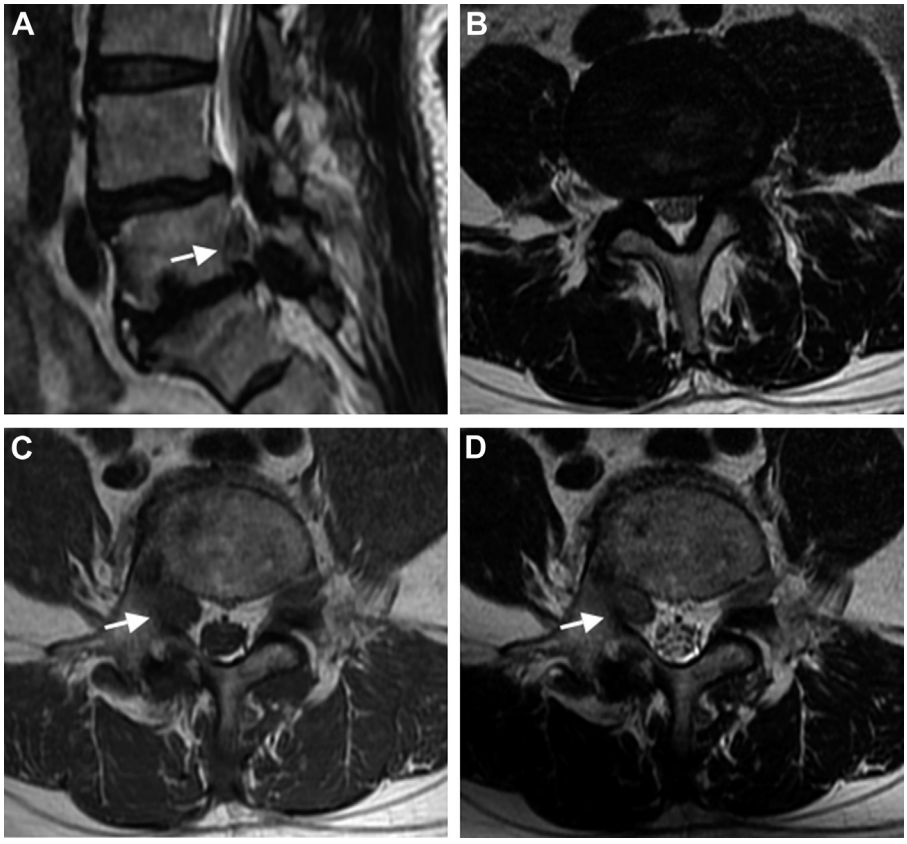

Fig. 1. Magnetic resonance imaging indicating a right-sided intraspinal mass-like lesion at the level of L5 (arrow). (A) Sagittal T2-weighted images; (B) axial T2-weighted images at the L4–L5 intervertebral level showing lateral recess stenosis because of hypertrophied ligamentum flavum. (C) Axial T1-weighted images at the L5 pedicle level; (D) axial T2-weighted images at the L5 pedicle level.

http://dx.doi.org/10.1016/j.spinee.2014.09.025

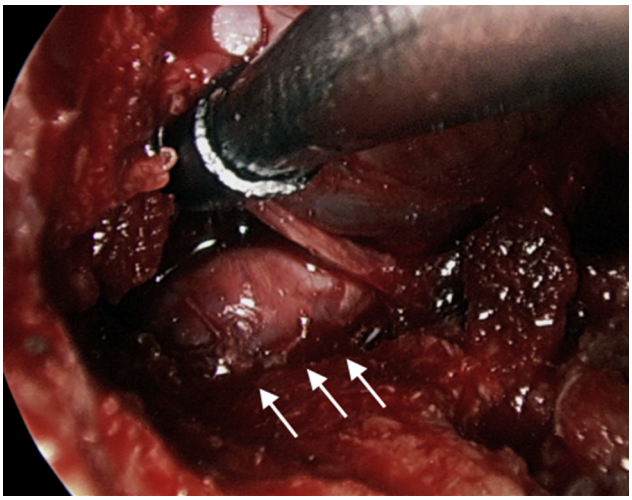

Fig. 2. Intraoperative photograph showing remarkable swelling of the right L5 nerve root (arrows).

of spinal nerve root or ganglion mimicking intervertebral disc herniation or other intraspinal mass lesions have been reported occasionally [1–3]. We suppose that it is essential to recognize the existence of this condition and adequate decompression of neural structures play an important role for successful management.

References

[1] Kim YY, Lee JH, Kwon YE, Gim TJ. Spinal nerve root swelling mimicking intervertebral disc herniation in magnetic resonance imaging—a case report. Korean J Pain 2010;23:51–4.

[2] Roser F, Ritz R, Morgalla M, Tatagiba M, Bornemann A. Spinal nerve root ganglionitis as a cause of disc herniation: case report. J Neurosurg Spine 2005;2:472–5.

[3] Epstein JA, Carras R, Ferrar J, Hyman RA, Khan A. Conjoined lumbosacral nerve roots. Management of herniated discs and lateral recess stenosis in patients with this anomaly. J Neurosurg 1981;55:585–9.

Katsuhiro Tofuku, MD, PhD
Naoya Murakami, MD
Seiichiro Naruo, MD, PhD
Department of Orthopedic Surgery
Naruo Orthopedic Hospital
12-24 Okadamachi, Chuoku
Kumamoto 862-0958, Japan

FDA device/drug status: Not applicable.

Author disclosures: ***KT:*** Nothing to disclose. ***NM:*** Nothing to disclose. ***SN:*** Nothing to disclose.