

Neural Foramen Remodeling Caused by a Sequestered Disk Fragment

Case Report

A 53-year-old man had had pain for 2 months in the left lower extremity radiating to the thigh. The pain had begun suddenly after he had lifted a heavy object. Clinical examination showed mildly decreased strength in the left leg, normal reflexes, and decreased sensation to pinprick in the left L3 nerve root distribution. A herniated disk at the L3 level was suspected, and myelography and CT of the lumbar spine were performed. The myelogram showed an extradural defect compressing the left lateral and posterior aspects of the thecal sac (Fig. 1A). The postmyelography CT showed a soft-tissue mass in the left L3-L4 neural foramen. The mass mildly expanded the foramen and eroded the posterior margin of the vertebral body (Fig. 1B). A neurofibroma was thought to be responsible for the findings, and the patient had surgical exploration. This revealed a tear in the posterior longitudinal ligament, and the mass was extracted in toto. Pathologic examination showed that the mass was composed of benign cartilage surrounded by granulation tissue compatible with a free intervertebral disk fragment.

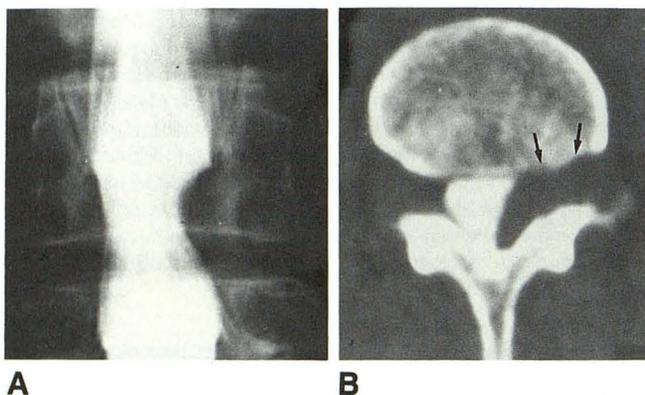


Fig. 1.—Neural foramen remodeling caused by a sequestered disk fragment.

A, Frontal view of lumbar myelogram shows an epidural defect slightly cephalad to L3-L4 disk space compressing thecal sac.

B, Axial postmyelogram CT scan at level of L3-L4 neural foramina shows a soft-tissue mass causing mild expansion of left neural foramen and erosion of posterolateral cortex of vertebral body (arrows).

Discussion

Free disk fragments migrate superiorly or inferiorly with equal frequency [1, 2]. Lateral migration also occurs [2]. These types of migration are contained within the anterior epidural space by an intact posterior longitudinal ligament. Lateral subligamentous migration occurs when the midline septum is intact [2]. This septum is a band of compact collagen that connects the ligament to the periosteum of the vertebral body [2]. If the disk fragment ruptures through the ligament, it can become "sequestered" in any location [3]. Although uncommon, sequestration of a disk fragment posterior to the thecal sac has been reported [3, 4].

In our patient, myelography showed an extradural defect located slightly superior to the L3-L4 intervertebral disk space. Subsequent CT scanning showed a mass within the left L3-L4 neural foramen that eroded cortical bone of the posterior margin of the vertebral body. The preoperative radiologic differential diagnosis in this type of lesion should include neuroma, meningioma, metastasis, and lymphoma. At surgery, a sequestered disk fragment was found. Far lateral disk herniations have been reported [5, 6], but to our knowledge, none of those gave rise to bone remodeling as seen in our case. Although it is a rare occurrence, a sequestered disk fragment should be considered in the differential diagnosis of a mass arising and expanding the neural foramen.

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