

Acute low back pain – a clinical and imaging challenge

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ACTA REUMATOL PORT. 2013;38:133-135

INTRODUCTION

Acute low back pain is the fifth most common reason of hospital admission¹. One of the major diagnostic challenges in the observation of these patients is the identification of a small subgroup with a relevant etiology, implicating a specific treatment, for their back pain (infection, fracture, malignancy/metastasis). Clinical manifestations such as fever, constitutional symptoms, neurological deficits or analgesic therapy unresponsiveness are warning signs for the need of a more detailed diagnostic workup. Considering the common causes of low back pain, acute disc herniations represent only a small percentage of patients with this complaint¹. The authors describe a case where an acute disc herniation, with a very rare location, was the cause for low back pain.

CASE REPORT

This case refers to a 49 years-old man admitted to the emergency room with 48 hour evolution of intense low back pain, radiating to the hypogastrium with no apparent precipitating factor. He had a clinical history of a fall with trauma to the lumbar spine 5 years before, and a recent diagnosis of renal lithiasis. The physical examination revealed pain in the pelvic region without peritoneal reaction and a positive renal Murphy's sign. Laboratory tests were unremarkable. Plain radiographs of the lumbar spine showed vertebral deformation in L2,

with a decreased anterior height of the vertebral body, and moderate degenerative discopathies [Figure 1]. Renal ultrasound and abdominal-pelvic CT didn't show relevant changes. Despite the optimization of analgesia, including intravenous morphine, the patient remained very symptomatic. He was therefore hospitalized and submitted to a magnetic resonance imaging (MRI) of the lumbar spine which revealed an old fracture of L2 and a left posterior epidural lesion elongated in the vertical direction from L1-L2 to L3-L4 with an isointense content relative to the disc. After gadolinium adminis-



FIGURE 1. X-Ray of the lumbar spine showing vertebral deformation in L2 and moderate degenerative discopathies, including a small syndesmophyte in D12.

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FIGURE 2. Sagittal MR images of the lumbar spine showing a posterior epidural lesion isointense to the disc with a thin rim of peripheral enhancement after gadolinium injection (from left to right: T1-weighted image, T2-weighted image and T1-FAT SAT after gadolinium iv injection).

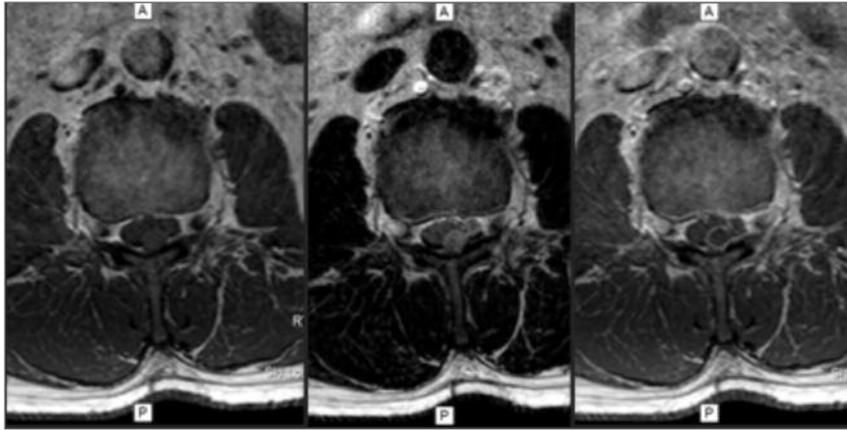


FIGURE 3. Axial MR images of the lumbar spine (L2-L3) showing a right posterior epidural lesion (from left to right: T1-weighted image, T2-weighted image and T1-weighted image after gadolinium injection).

tration, a thin rim of peripheral enhancement was found [Figures 2, 3]. The bone scintigraphy excluded secondary involvement. The patient underwent foraminectomy, discectomy and laminectomy at L2-L3 level with removal of multiple extruded disc fragments having a left lateral and posterior epidural topography [Figure 4]. He was discharged, completely asymptomatic, after 48 hours of surgery, with no neurological impairment resulting from the event.

DISCUSSION / CONCLUSION

Migration of herniated intervertebral disc fragments into the posterior epidural space is an infrequent event.

For anatomical reasons the migration usually occurs into the anterior and lateral epidural space^{2,3,4}. Although MRI characteristics showing isointense signal and continuity with the disc may be a clue for the diagnosis, the definitive diagnosis of posterior disc herniation is difficult. There are more common lesions found in that location that can mimic the MRI findings, such as abscess, tumor, synovial/flavum ligament cyst or epidural hematoma^{2,5}. In this case, the previous history of trauma and the normal inflammatory markers made us raise the suspicion for disc herniation, but the final diagnosis was only possible with the direct observation during the surgery.

The authors draw attention for the clinical and imaging challenge of a herniated intervertebral disc, with



FIGURE 4. Intraoperative photograph illustrating the surgical view immediately after laminectomy and flavectomy. The migrated herniated disk can be seen on the midline amidst the epidural fat lying on the dorsal aspect of the teical sac (arrow).

a rare location, in the differential diagnosis of acute low back pain.

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Bruxelas, Bélgica
21 a 24 Novembro 2013