Posterior Epidural Migration of Extruded Lumbar Disc Mimicking Epidural Mass: Case Report

Epidural Kitleyi Taklit Eden Ekstrude Diskin Posteriyor Epidural Migrasyonu: Vaka Sunumu

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Running Title : Lumbar disc migration

Abstract: A 44-yr-old male patient was admitted with persistent low back pain of five days duration. Neurological examination and direct x-rays were normal but lumbar spinal Magnetic Resonance Imaging showed posterior epidural mass at the level of L_3 vertebral corpus with peripheral contrast enhancement. Initial diagnosis was epidural mass (tumor or abscess). Surgical and pathological evaluations showed extruded disc fragment. As a result we proposed that in the presence of acute or persistent low back pain as a noninvasive radiological investigation Magnetic Resonance Imaging should be performed even in the absence of neurological deficit and if necessary appropriate surgery should be performed.

Key Words: Epidural mass, lumbar disc disease, sequestrated disc.

Özet: Kırkdört yaşında erkek hasta beş gündür var olan sürekli belg ağrısı ile başvurdu. Nörolojik muayene ve direk grafiler normaldi, fakat, lomber spinal Manyetik Rezonans Görüntülemede L_3 vertebra korpusu seviyesinde priferik kontrastlanma gösteren posterior epidural kitle gözlendi. Öntanı epidural kitle (tümör veya abse) idi. Cerrahi ve patolojik değerlendirme ekstrude disk ile uyumlu idi. Sonuç olarak akut veya sürekli bel ağrısının var olduğu durumlarda Manyetik Rezonans Görüntüleme non invazif bir radyolojik değerlendirme yöntemi olarak nörolojik defisit olmadığında da uygulanmalı ve gerekirse uygun cerrahi girişim yapılmalıdır.

Anahtar Kelimeler: Epidural kitle, lomber disk hastalığı, sekestre disk.

INTRODUCTION

Although in the neurosurgical practice lumbar disc extrusions are frequently observed, posterior epidural migration of extruded fragment is only rarely seen, and, to the best of our knowledge only a few cases have so far been reported (1-8). The reported cases usually had ordinary lumbar disc disease or cauda equina compression symptoms. We present a case with

persistent low back pain of only five days duration and no neurological deficit.

CASE

A 44-yr-old man was admitted to our department with low back pain of five days duration. Neurological examination was normal. Direct x-rays of lumbar spine showed no abnormality. The lumbar spinal Magnetic Resonance Imaging (MRI) showed posterior epidural mass at the level of L_3 vertebral corpus with peripheral contrast enhancement (Figure: 1). The patient was operated on with an initial diagnosis of epidural mass (tumor or abscess). A free disc fragment without continuity with the intervertebral disc was removed via L_3 right partial hemilaminectomy. The postoperative course was uneventful. The pathological examination of specimen confirmed the intra operative gross diagnosis.

Figure 1: The contrast enhanced T1 weighted sagital plane MRI slice showed ring contrast enhancing epidural mass at the L_3 vertebral corpus level.

DISCUSSION

The posterior epidural migration of extruded disc fragment is infrequent (1,3,4,6,8,11,12,15). The clinical findings of reported cases were usually severe, including radiculopathy or cauda equina compression (1,3,4,6,8,11,12,15). Furthermore, the presence of anomalies as tethered cord or spinal stenosis resulted in more severe clinical picture (16).

Relative rarity of the posterior epidural migration of sequestered disc fragments is explained by the presence of anterior meningovertebral ligaments which act as a barrier in the anterior epidural space (2,8,13,14).

Yamashita et al (18) reported ring contrast enhancement of the sequestrated disc fragment in the MRI sequences and showed peripheral neovascularisation histopathologically. Moore et al (10) reported no correlation among neovascularisation of sequestrated disc fragment and the duration of sciatic pain and clinical improvement. Gallucci et al (5) reported that inflammatory changes of the disc which possibly accounted for epidural contrast enhancement in the MRI, seemed to play a role in the modification of the size of disc herniation.

Recently, some authors proposed that the migration of extruded disc fragment prevented by meningovertebral ligaments acted as a barrier in the anterior epidural space; on the other hand, the possibility of atypical migrations of extruded disc fragments in spite of these barriers were also reported (2,8,13,14). We believe posterior epidural disc fragment migrations should be evaluated within this latter group.

The differential diagnosis often includes epidural abscess, tumor or synovial cyst since extruded disc fragment rarely migrates to the posterior epidural space (1,9,17).

The prognosis of the sequestrated disc fragments in the epidural space further contributes to preoperative diagnostic problems and may suggest tumor or abscess (1,4,17).

Even neurologically intact cases with radiologically confirmed intra canalicular free disc fragment should be operated because of the neurological deterioration risk. The possible neurological deterioration may include cauda equina compression findings and once cauda equina compression findings develop, full recovery may not be achieved despite application of the convenient therapeutic modalities (1,3,7,16). Therefore, we believe that in the presence of acute or persistent low back pain, MRI as a noninvasive radiologic investigation should be performed for every patient even in the absence of neurological deficit. If necessary the appropriate surgery should be performed in the presence of sequestrated disc fragment.

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