

Posterior Epidural Lumbar Disc Migration Presenting as an Epidural Mass:- A Rare Case Report with Diagnostic Dilemma

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Abstract

Back pain is one of the most common complaints of patients presenting in the Neurosurgery Department. Most of the back pains are improved by back exercises, analgesics and requires no specific investigation. But sometimes patients present with severe signs and symptoms of back pain with cauda equina syndrome for which immediate diagnosis and management is required. In back pain with cauda equina syndrome to diagnose the cause, investigation of choice following clinical examination is a MRI lumbosacral spine. In Neurosurgery herniated lumbar disc is one of the most common cause of low back pain with CES and easily diagnosed over MRI lumbosacral spine. But sometimes imaging increases the confusion regarding diagnosis. We hereby report a patient with severe LBP (low back pain) with bilateral lower limbs radiculopathy who presented with a lumbar epidural mass which later turn out to be a posterior epidural migrated lumbar disc fragment (PDF).

Keywords: Low Back Pain Posterior Epidural Migrated Disc Fragment Epidural Mass

Case Description

A 45 -year old man had visited the neurosurgery opd with complaints of having low back pain for two years which was more on standing and walking. The patient used to take over-the-counter analgesics for pain relief and never had a formal checkup. But for the last one week Low Back Pain (LBP) was severe with a Visual Analogue Score (VAS) score is around 8 and pain radiating to both legs. The patient had difficulty in standing and walking although power was intact in lower limbs. He also had increased frequency of micturition for last week but no urinary incontinence. He had no history of trauma. The patient had bilateral hypoesthesia in the L4-L5 region. The blood tests revealed no alterations. After a thorough neurological examination patient was advised urgent MRI thoracolumbosacral spine with contrast. MRI revealed a wide lesion in the L4-5 epidural space with compression of the epidural sac at the L4-5 level (Figures 1 and 2).

The patient was planned for emergency surgery given developing Cauda Equina symptoms. A posterior midline incision extending from L2 to S1 was given. Paravertebral muscles were separated with the help of monopolar cautery and then self-retaining retractors were applied. L4 laminectomy is done initially in accordance with the MRI imaging but there was no epidural mass was found. L4-5 disc space was identified under C arm guidance which was empty. Then L3 laminectomy was also done. And a well-defined lobulated mass was found on the left side of the thecal sac



Figure 1. MRI sagittal view lumbosacral spine T2 image showing a well defined round epidural mass compressing over L4,L5 level thecal sac.



Figure 2. MRI I4,L5 level axial T2 cut showing.

after removing the ligamentum flavum which had compressed the thecal sac (Figure 3).

Cruciate incision with 11 number knife was given and then with the help of disc forceps this lobulated mass was emptied which turn out to be an epidural migrated disc which used to be a very rare phenomenon.

On the first post-operative day, the patient had good pain relief (VAS back 3) and showed prompt neurological recovery. The patient was discharged five days after surgery and at the one-month follow-up evaluation, he was pain-free, with no hypoesthesia or motor weakness.

Discussion

The first case of a Disc Herniation(DH) with posterior epidural migration(PEM) was reported by Lichter in 1989 which is also known as Posterior Epidural Migration Of Lumbar Disc Fragment(PEMLDF) and till now only 75 cases have been reported [1]. DH is a displacement of disc material beyond the limits of the intervertebral disc space [2-3].

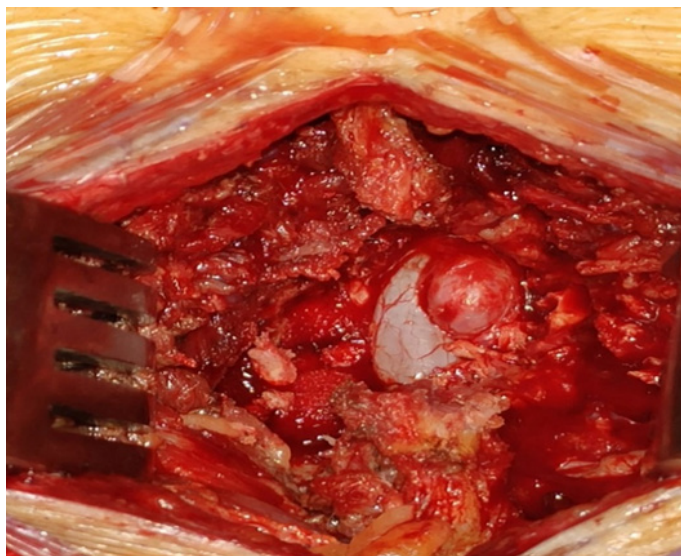


Figure 3. Posterior epidural disc migration 1.

According to the shape, DH can be classified as protrusions or extrusions. sequestration is a type of disc extrusion in which the disc has lost its continuity with the native disc. DH may also be categorized as contained or uncontained, whether these are covered or not by the annulus fibrosus [4]. In relation to the dural sac, DH is commonly located anteriorly or antero-laterally [5]. In a series of 2880 patients operated for lumbar DH, Sengoz et al. reported an incidence of 0.27%. In their series, the migrated fragments were located mainly at the L3-4 level (75%) and the L4-5 (25%) [6]. Disc herniation in the lumbar region is although very common but there are various structures that prevents its migration to the posterior epidural space which consists of- the posterior longitudinal ligament, annulus Fibrosus, septum posticum., A fibrous lateral (peridural) membrane, the ligament of Hoffmann. The structures listed above along with dura, nerve roots, and Batson's venous plexus all together stop the migration of the disc to the epidural space [7].

Patients with posterior migration of a herniated disc may complain of low back pain or radiculopathy but commonly will present with cauda equina syndrome [8].

MRI is the diagnostic modality of choice [9]. The migrated disc usually appears similar, although not identical to the cerebral spinal fluid signal intensity, and exhibits rim enhancement on the post-contrast sequences [10]. Computed tomography usually demonstrates a soft tissue nodule indenting and displacing the dural sac anteriorly The diagnosis of this rare form of the herniated disc is confounded by atypical imaging and symptoms mimicking an abscess, hematoma, facet cyst, or neoplastic process, leading to diagnostic difficulty and uncertainty in management.

In our case patient presented with severe back pain and difficulty in Walking along with an increased frequency of urination which were sudden in onset and when the MRI lumbosacral spine demonstrated an epidural mass which is above the level of emptied disc space the possibility of an epidural mass or hematoma can not be ruled out. The treatment modalities of these entities are different from the surgical treatment of the migrated disc.

Importantly, however, early diagnosis and treatment of PEMLDF have been shown to correlate with a positive clinical outcome. In a study from 2011, early surgery within three days of symptom onset was one of two main factors contributing to a good or excellent prognosis using the modified Odom criteria 6. Identifying the correct pathology is, therefore, paramount in providing optimal treatment.

Conclusion

Disc herniation is although a common disease entity but PEMLDF is a very rare event and till now very less reported worldwide. MRI lumbosacral spine is an imaging modality of choice in a patient with low back pain with features of CES(cauda equine syndrome) but sometimes it will increase the diagnostic dilemma. Early surgery in PEMLDF is very rewarding.

Conflict of Interests

None.

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