

Case Report & Case Series

Posterior epidural migration of extruded lumbar disc fragment mimicking epidural mass: A case report



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A B S T R A C T

Introduction: Posterior epidural migration of the lumbar disc fragment is a very rare pathological entity. The pathomechanisms remain unclear.

Case presentation: The authors present the case of a 78-year-old German male with refractory low back pain. Contrast-MRI showed an epidural mass at the level L1–2 with rim contrast enhancement. The preoperative diagnosis based on the clinical and history of the patient was most probably sequestered disc fragment migrated posteriorly; differential diagnosis included all other causes of posteriorly located epidural mass.

A left interlaminar approach L1–2 was performed. A sticky, capsulated, semi-hard and mobile mass was removed from the posterior epidural spaces. Intraoperative a lateral till the ventral disc fragments were found. An annular tear was found and discectomy was performed. Pathological examination showed a disc tissue with degenerative changes. The patient was pain-free until the last follow-up at 5 months.

Conclusions: Correlation between relevant clinical information and radiological finding may help to detect the posterior migrated disc fragment.

1. Introduction

Posterior epidural migration of an extruded disc fragment is a very rare clinical presentation. Migration of extruded disc fragments may take place in all directions in the horizontal and vertical plane, intradural and intraradial migrations have been also reported [1–3].

Published data showed that the posterior epidural migration of an extruded disc fragment occurs more in men, male to female ratio is about 4:1 and involves mainly the middle age group [4].

Preoperative radiological diagnosis of posterior epidural migration of extruded disc fragment is difficult due to the unusual location, the contrast enhancement and mass effect which mimicking tumor or other epidural pathologies [5].

Pathogenesis of the posterior epidural migration of an extruded disc fragment is still not well-known, despite reported case in literature, no comprehensive studies have been reported this pathology [3].

Well-documented case reports are needed to understand and manage this type of the clinical presentation.

2. Case presentation

A 78-year-old German male patient presented in our clinic complaining of refractory low back pain radiating to the left leg along L2 root for the prior 4 months. The patient was under the conservative therapy without any improving. Physical examination demonstrated no motor deficits, hypesthesia in the left L2 & 3 dermatome. Deep tendon reflexes were preserved. The patient had no fasciculations, atrophy or upper motor neuron signs. The MRI (Fig. 1) of the lumbar spine showed a lumbar mass at level L1/2 with contrast enhancement.

May 2017, an interlaminar approach L1–2 was performed, after removing the ligamentum flavum; a sticky, semi-hard, white, mobile capsulated mass became visible. At first, it looked like an epidural tumor. It was carefully dissected out and found to be connected with a thin film of disc material to the ventromedial side of the disc L1–2. Inside capsule was a typical disc fragment. An annular tear was found during the inspection of the disc. Removal of the disc after separation of the dura from the intervertebral disc with gentle medialization of the dural sac was performed. Intraoperative was the usual disc herniation much bigger compared with MRI scan. No dural tear or intradural mass was detected in the dural sac or radicular dura. Fig. 2.

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Fig. 1. Preoperative MRI: 1a sagittal T2-weighted image, 1b axial T2-weighted image showing a posterior mass at level L1–2, 2a and 2b sagittal and axial T1-weighted image with contrast showing a ring enhancement.

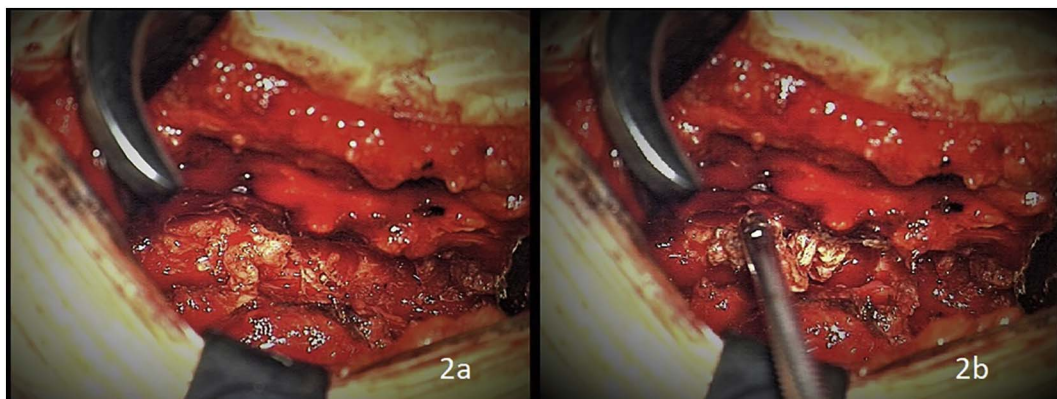


Fig. 2. a: Intraoperative picture showing a disc material extended to the ventromedial side of the disc after removal of the mass, b showing a disc material after removal of the capsule membrane.

The patient was pain-free at the last follow-up, 4 months after surgery. The postoperative course was uneventful. The patient is still pain-free until the last follow-up in September 2017. Pathological examination showed a disc tissue with degenerative changes with sequestered disc fragment (Fig. 3).

3. Discussion

An extruded fragment is most often contained within the posterior longitudinal ligament on the posterior or posterolateral aspect of the disc with caudal and paracentral migrations. Posterior epidural migration of an extruded disc fragment is a rare presentation [2,6,7].

The pathogenesis of posterior migration is not well-known.

Published data proposed that presence of adhesion between the annulus fibrosus and the dural sac leading to a narrow epidural space which may cause posterior migration of the sequestered disc material, location of the tear of the annulus fibrosus near the pedicle and acute strong pressure may push the disc material to the dorsal side of the dural sac [8].

Differential diagnosis includes all epidural pathologies causing the same clinical presentation like tumors, hematomas, cystic lesions, and abscesses. MRI can establish the diagnosis in most cases based on the characteristic signal of different pathologies [9]. The preoperative diagnosis of our case was most probably sequestered disc but an epidural tumor was not excluded. Treatment of posterior epidural migrated lumbar disc mainly is the surgical treatment but the conservative

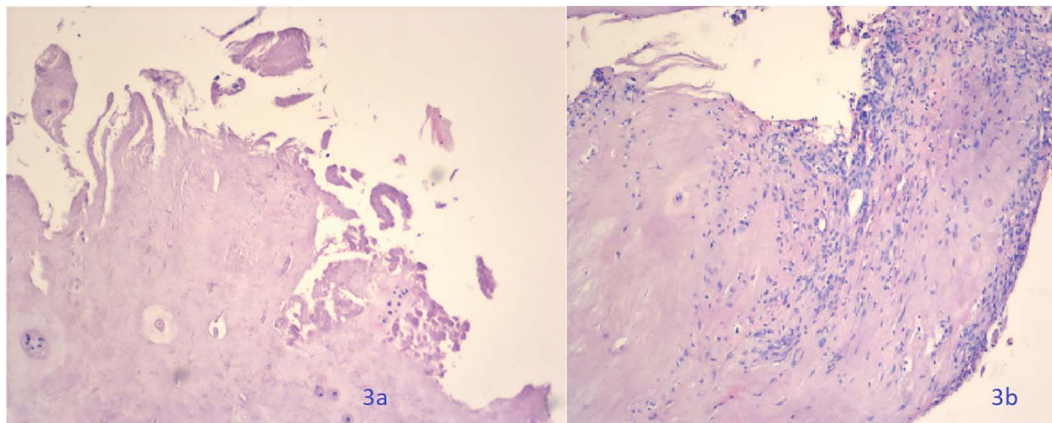


Fig. 3. Pathological examination: a: damage of central nucleus pulposus due to degenerative changes. At the left degenerative chondrocytes. At the top damage of the chondroid tissue, b: repair mechanisms with the proliferation of fibroblasts and chondroblasts. This ends in defective regeneration of the annulus fibrosus with scar building and stenosis of the surrounding area.

treatment is also reported in the literature [10].

Our case is in agreement with the published data which showed that most patients present with severe radiculopathy and rarely with quad equine. Our patient showed improvement of symptoms after surgery which is in agreement with previously reported cases, which showed that the prognosis of surgical treatment of posterior epidural disc fragment is entirely satisfactory [3,5].

4. Conclusion

Correlation between relevant clinical information and radiological finding may help to detect of the posterior migrated disc fragment. Surgical treatment provide satisfactory results, conservative treatment may be used in selected cases with close follow-up.

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