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Case report

Which treatment method should be preferred for lumbar discal cysts? A case report and a review of the literature

Erhan Arslan^{a,*}, İrşadi Demirci^a, Gülçin Şimşek^b, Mehmet Oğuz Kılınçaslan^a, Servet Güreşçi^b, Çiğdem Hacıfazlıoğlu^c

^aDepartment of Neurosurgery, Giresun University School of Medicine, Giresun, Turkey

^bDepartment of Pathology, Keçiören Training and Research Hospital, Ankara, Turkey

^cDepartment of Radiology, Keçiören Training and Research Hospital, Ankara, Turkey

ARTICLE INFO

Article history:

Received 12 December 2012

Accepted 17 April 2013

Available online 23 January 2014

Keywords:

Discal cyst

Microsurgery

Radiculopathy

ABSTRACT

Discal cysts are extremely rare pathologies that occur most often in the lumbar region. The clinical symptoms of discal cysts are indistinguishable from those of a lumbar disc herniation. The aetiology and pathogenesis of discal cysts remain unknown. The optimal treatment of discal cysts also remains controversial. Most cases of lumbar discal cysts are treated surgically, while some cases regress spontaneously. In this article, we report a case of a lumbar discal cyst treated surgically by microdiscectomy. We discuss the treatment options for discal cysts in the context of the literature.

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1. Introduction

Discal cysts are a rare cause of radiculopathy and are difficult to distinguish from other causes of lumbalgia and radiculopathy. Discal cysts are defined as extradural cystic lesions communicating with the adjacent disc [1,2]. Magnetic resonance imaging (MRI) is the imaging modality of choice, revealing extradural cystic lesions located ventrally, with low T1 and high T2 signal intensity, and having a pedicled attachment to the adjacent intervertebral disc [3,4]. Discal cysts should be differentiated from perineural cysts, synovial cysts, ganglion cysts, ligamentum flavum cysts, postsurgical pseudocysts, epidural varices and haematomas [4–6].

Various treatment modalities have been suggested, and it seems that symptomatic discal cysts should be treated first with conservative therapies. The probability of a discal cyst

resorption over time is unknown but initial medical treatment in the context of clinical symptoms seems to be effective. Surgical treatment of a discal cyst is reserved for patients with persistent neurological symptoms and/or severe leg pain refractory to conservative therapies [6]. We present the case of a lumbar discal cyst treated microsurgically. A review of the literature concerning lumbar discal cysts is also presented to detail the optimal treatment methods for these cysts.

2. Case report

A 68-year-old male patient presented to our clinic with complaints of moderate low-back pain in combination with severe left lower limb radicular pain and numbness radiating from the left buttock to the posterolateral thigh. His left sciatica started two weeks prior to admission to the hospital,

* Corresponding author at: Department of Neurosurgery, Giresun University School of Medicine, Mumcular Sok. No: 1/1, 28100 Giresun, Turkey. Tel.: +90 312 356 90 00x1404; fax: +90 312 356 90 03.

E-mail address: arsershan@gmail.com (E. Arslan).

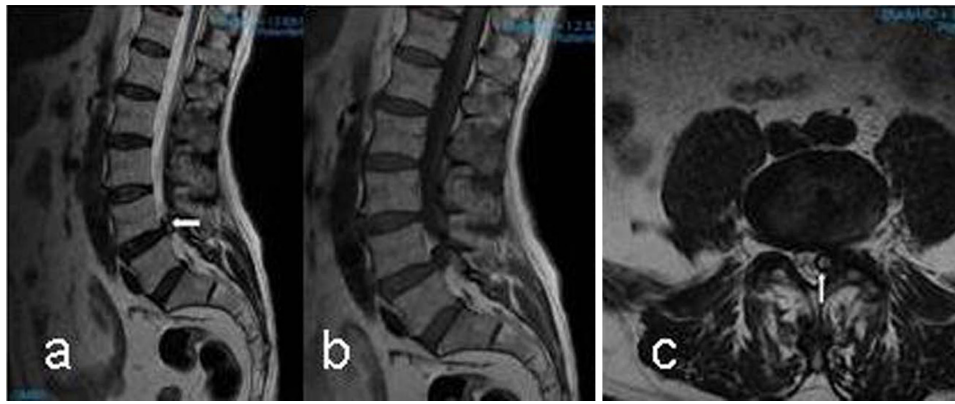


Fig. 1 – Lumbar spinal MRI of the patient demonstrating the L4–L5 discal cyst, with prominent compression of left L5 nerve root. White arrows point the cystic lesion. (a) Sagittal T2-weighted, (b) T1-weighted, and (c) axial T2-weighted images.

and progressively worsening pain and numbness of the left leg were also reported. Neurological examination revealed positive straight leg raising at 30° on the left side. Motor examination was remarkable for significant weakness (2/5) of the left extensor hallucis longus and moderate weakness (4/5) of the left ankle dorsiflexors. Sensory examination demonstrated hypoaesthesia in the left L5 dermatome. The Achilles tendon reflex was hypoactive (1+) in the left lower limb.

Lumbar radiographs revealed degenerative changes. Magnetic resonance imaging of the lumbar region demonstrated a cystic lesion adjacent to the L4–L5 intervertebral disc. The cystic lesion was compressing the left ventrolateral aspect of the thecal sac and left L5 spinal root. The cystic lesion was hypointense on T1-weighted MRI and hyperintense on T2-weighted MRI (Fig. 1).

The patient was treated with a left partial hemilaminectomy at the L4–L5 level. After flavectomy, the cystic lesion was visualized over the ventrolateral aspect of the thecal sac and the left L5 spinal root intraoperatively (Fig. 2a and b). The cyst was aspirated and completely resected under the operating microscope. The cyst contained bloody serous fluid. As a

connection between the cyst and the L4–L5 intervertebral cyst was observed intraoperatively, we also performed microdiscectomy at this intervertebral level. Samples from the cyst wall were collected for pathological examination. No intraoperative or postoperative complications were observed. On pathological examination, there was a granulation-tissue-like reaction surrounding the ischaemic necrosis area (Fig. 3). Fibroblastic proliferation and inflammatory cells were observed around the cystic lesion. After surgery, complete pain relief was noted. Early postoperative neurologic examination revealed negative straight leg raising on the left side and no improvement of motor deficits. The patient was discharged on the second postoperative day with complete relief of his complaints.

3. Discussion

Discal cysts were first proposed as an entity by Chiba et al. [4,7]. These cysts are extremely rare lesions, manifesting symptoms and signs such as a lumbar disc herniation. Intraspinal cysts, such as perineural, synovial, ganglion cysts and post-surgical

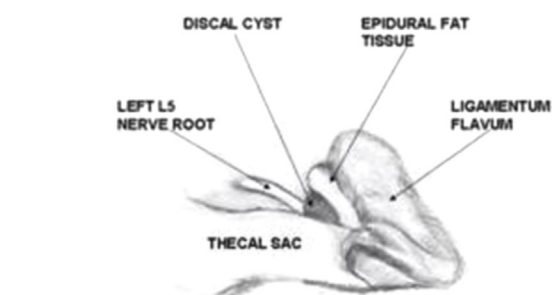
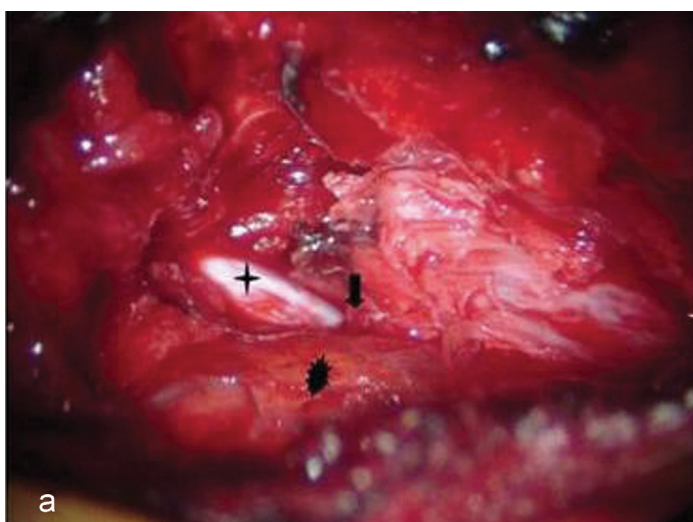


Fig. 2 – (a) Intraoperative photograph of the patient. The cystic lesion (black arrow) compressing thecal sac (✱) and left L5 nerve root (✚) was visualized and (b) artistic drawing of intraoperative photography.

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