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Case Report

Discal cyst: a rare cause of low back pain and sciatica [☆]

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ABSTRACT

We report a case of a 54-year-old man suffering from sciatalgia unresponsive to medical treatment. Imaging revealed a discal cyst the level L3-L4, a rare cause of low back pain, which has characteristic imaging features. In particular, on Magnetic Resonance Imaging it appears as a cystic formation with fluid content, which usually arises from the posterior contour of the intervertebral disc and it frequently has air bubbles within it. The patient underwent surgical treatment with resolution of symptoms.

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Introduction

Discal cyst is a rare lesion of the spine, which consists of an extradural cyst communicating with the intervertebral disc [1]. They are more common in Asia and in young men and they are reported to occur more frequently at L4-L5 level [2]. Clinically, they cause low back pain and sciatica, thus being indistinguishable from disc herniation [2]. Magnetic resonance imaging (MRI) is crucial to make the correct diagnosis as they appear as cystic formation with fluid content whose signal is variable based on the amount of blood within it [3].

Case report

A 54-year-old man presented with persisting low back pain unresponsive to rest and medical treatment, left sciatalgia and left leg weakness which had started two weeks before. There was no history of associated trauma. Neurological examination showed positive straight leg raising test at 45°.

A nonenhanced MRI of the lumbar spine was performed, followed by a noncontrast lumbar spine Computed Tomography (CT) (Fig. 1). MRI revealed the presence of a cystic formation at the posterior contour of the intervertebral disk of the level L3-L4, which compressed the left posterior root of L4.

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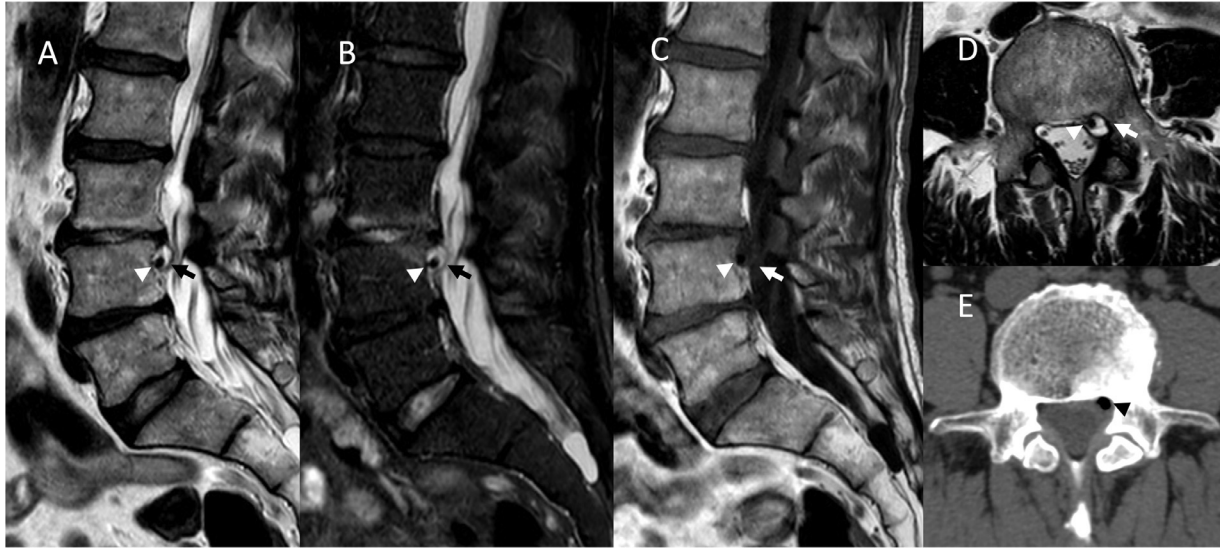


Fig. 1 – Magnetic resonance (A–D) and computed tomography (E) of the lumbo-sacral spine show a Discal Cyst (arrows in A–E) in a 55-year-old male suffering from acute-onset drug-resistant low back pain and sciatica. Discal cyst appears as a well-demarcated formation in contact with intervertebral disc, hyperintense in T2 (A and D) and STIR (B) and hypointense in T1 (C). Air within the Discal Cyst (arrowheads in A–E) is a common associated finding.

This formation had fluid content, hyperintense on T2 and STIR and hypointense on T1-weighted sequences. There was also a hypointense nucleus on both T2 and T1 sequences within it, which had the density of air on CT. Multiple mild discal protrusions were also present.

A diagnosis of discal cyst was made, therefore the patient underwent surgery, consisting of hemilaminectomy and microscopic resection of the cyst. After surgery, there was complete resolution of symptoms.

Discussion

Discal cyst is defined as an intraspinal extradural cyst which is in contact and communicates with the intervertebral disc [4]. Discal cyst is extremely rare, and it is mainly found in young patients [4].

The exact pathophysiological mechanism underlying this condition is unknown, but 2 hypotheses have been suggested. Toyama et al [5] proposed that Discal cyst may develop as result of an impaired resorption of an epidural hematoma. On the other hand, Kono et al hypothesized that Discal cyst may arise from focal degeneration of the intervertebral disc, which might determine local spilling of fluid with subsequent inflammatory response and pseudo-membrane formation leading to Discal cyst [6].

Clinical presentation is similar to that of degenerative lumbar disc disease, but sciatalgia and signs of nerve root compression are reported to be more common in Discal cyst [7].

The gold standard for diagnosis is CT-discography, which shows contrast material directly flowing into the disc [2]. However, MRI is usually sufficient for the diagnosis. Moreover, it is not invasive and it enables better evaluation of adjacent struc-

tures. On MRI, Discal cyst appears as extradural-intraspinal cystic lesions communicating with the disc. Its fluid content is hyperintense on T2 and hypointense on T1-weighted images, with rim enhancement after Gadolinium injection and frequently air bubbles are present within the cyst [8].

The first therapeutic option is represented by medical treatment, but it usually fails to relieve symptoms, therefore surgery is frequently performed [9]. Surgical techniques include CT-guided aspiration of cyst content and microsurgical or endoscopic resection of the cyst. CT guided aspiration shows good results but high recurrence rate [10].

Patient consent statement

Written consent has been obtained from the patient.

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