Discal cyst: A rare cause of low backache

We report a 38-year-old male who presented with long-standing low backache. On the pain intensity scale, the pain experienced by the patient was around 4/10. These symptoms were further evaluated with an MRI. On MRI, a cystic lesion was seen in the lumbar spine indenting the ventral aspect of the thecal sac at L5-S1. The cyst displaced the thecal sac dorsally compressing the S1 traversing nerve root. It was found to be hypointense on T1W and hyperintense on T2W images [Figure 1]. T2 Hypointense debris was seen within the cyst [Figure 2]. On contrast evaluation, the cyst shows peripheral rim enhancement [Figure 3]. Given the imaging features of this lesion, a diagnosis of the discal cyst was made. Non-contrast CT scan was performed which showed the cyst to be isodense with the thecal sac [Figure 4].

CT-guided aspiration of the cyst through the posterior interlaminar space approach was subsequently performed. The aspirate revealed reddish straw-colored fluid. The pain level dropped on a pain intensity scale from 4/10 to 1/10. The patient is pain-free subsequently.

Discal cysts are rare intraspinal extradural cysts which are seen typically in young individuals. A discal cyst is so named as it is believed to communicate with the related intervertebral disc. They are thought to arise due to annular tears of the

Figure 1: Discal cyst (arrows) is appreciated as well-defined cystic lesion which is hypointense on sagittal T1 weighted image (on left) and hyperintense on sagittal T2-weighted image (on right)

Figure 2: Sagittal T2-weighted image shows hypointense debris (arrows) within hyperintense discal cyst

Figure 3: On precontrast (left) and postcontrast (right) T1 axial images, discal cyst (arrows) showing peripheral rim enhancement

Figure 4: On CT scan, discal cyst (arrow) appears to be isodense with the thecal sac (on the right side). After post-CT guided aspiration, complete resolution of the discal cyst (arrow) is achieved (on the left side)
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There is a male predominance, with approximately 90% of reported cases affecting males and the majority of reported cases have been in Asia.\(^1\) Approximately 50% of discal cysts occur at the L4–5 level and all of the reported cases have been within the lumbar spine.\(^1\)

Toyama et al. proposed that a herniated disc produces rupture of the epidural venous plexus and formation of an epidural hematoma.\(^2\) According to Chiba et al., discal cysts are less likely to represent degeneration of extruded disc fragments because the adjacent disc from which the disc fragment must have originated are not as degenerated as one would expect.\(^3\) Chiba et al. described the characteristics of discal cysts as follows: (1) clinical symptoms of a unilateral single nerve root lesion, (2) they occur at a slightly younger age and at higher intervertebral levels than typical disc herniation, (3) involved disc show minimal degeneration, (4) discograms show communication between the cyst and corresponding intervertebral discs, with severe radiating pain in the affected leg at the time of injection, (5) cyst contains bloody to clear serous fluid, and (6) on histological examination there is no disc material or specific lining cell layer.\(^1\) Histologically, intraspinal cysts of the facet and the ligamentum flavum are referred to as a ganglion or synovial cyst.\(^4\) The presence of lining cells differentiates discal cysts and other intraspinal cysts; however, their imaging and clinical features are similar.\(^5\) It may be possible to distinguish discal cysts from other intraspinal cysts on the basis of their location, imaging features, and close association with the adjacent disc. On MRI, a well-circumscribed anterior or anterolateral cyst is seen in close relation with a disc bulge or herniation. There may be the mass effect produced by the cyst on the thecal sac, lateral recess, and the nerve roots. These cysts typically appear hypointense on T1-weighted images and hyperintense on T2-weighted images. There may be rim enhancement with gadolinium administration. They may be distinguished from synovial cysts on the basis of location. Most synovial cysts arise from the facet joints and are usually further posteriorly located in the epidural space. Perineural cysts are usually concentrically along the course of nerve roots. Arachnoid cysts are typically seen in the thoracic spine. Neurogenic tumors do not follow fluid signal intensity and show thicker solid enhancement with contrast.

The ideal method of management is controversial. Treatment options are by hemilaminectomy or microscopic cyst resection. Kang et al. performed CT-guided aspiration of discal cysts in 8 patients without discography and without steroid injection, and prolonged pain relief from the procedure was achieved in 7 of 8 patients.\(^6\)

This condition has been reported before but is very rare and there is no universally accepted treatment for it. This is the only case report from India which describes the treatment of this entity using a percutaneous approach which is both cost-effective and with minimal perioperative morbidity.

**Declaration of patient consent**
The authors certify that appropriate patient consent was obtained.

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**Conflicts of interest**
There are no conflicts of interest.

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