

Lumbar Spinal Hydatid Cyst with Intracanal and Paravertebral Invasion: A Rare Entity in an Unusual Location

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Hydatid disease is a parasitic infection associated with *Echinococcus granulosus* tapeworm. The spine may be affected in the context of hematogenous dissemination in 1% of the cases.¹ According to its manifestation, hydatid disease is categorized as

1. Intramedullary
2. Extradural
3. Intradural extramedullary
4. Hydatid disease of the vertebra
5. Paravertebral²

An intradural disease without vertebral column involvement is extremely rare.² Thoracolumbar spine (63.9%) is the predominantly affected region, as *Echinococcus* typically inserts vascular segments of the spine.³

We aim to present an uncommon case of lumbar manifestation of hydatid disease, reviewing the literature as well.

A 65-year-old patient presented with lumboischialgia, progressive paraparesis 3/5 of his right leg and 2/5 of his left one accompanied by reflexes absence, hypaesthesia, and vegetative disorders. Symptoms were initially attributed to lumbar stenosis with unsuccessful conservative treatment having no amelioration by inclination. Plain radiographs of the lumbar spine were uneventful. Magnetic resonance imaging (MRI) of the lumbar spine revealed a multilobulated cystic formation with spatial dimensions 10 cm × 4 cm between the second and fifth lumbar spine extending intracanal and compressing the dural sac leftward. The rest MRI neuraxis control was unremarkable. Computer tomographic (CT) scans of the chest and abdomen revealed no infiltration (► Fig. 1). The labor control revealed no eosinophilia, whereas indirect hemagglutination test for *Echinococcus* was positive in 1/256 dilution. Finally the echocardiogram was unremarkable too.

With a raised suspicion of hydatid cyst, the surgical excision was warranted.

We performed a posterior laminectomy with resection of the intracanal cysts. Postoperative pain symptoms were relieved and muscle strengths restituted to 4/5 right and 3/5 left, respectively. Hypaesthesia also retreated but unfortunately impaired micturition and defecation remained. Postoperative MRI control showed total resection. Albendazole was also administered for the following 4 months.

The mechanism of intracanal parasites seeding is attributed to hematogenic dissemination.⁴ The mechanism is imputed to the unique feature of vertebral plexus. Groen et al⁵ have divided it in their studies in three parts: the internal vertebral plexus surrounding the dura matter, the basivertebral veins of vertebral bodies, and the external vertebral plexus surrounding the column. The internal vertebral plexus communicates with the intraspinal and radicular veins that constitute valves, thus permitting a reflux and explaining the primary presence of hydatid cyst in the spine.

Symptoms of spinal disease usually manifest insidiously years after the primary infestation of cysts. Slow development of cysts over several years and the surrounding bone resistance support a rationale for this. Most patients refer a progressive low back pain with radiculopathy.⁶

MRI remains the diagnostic modality of choice. Findings suggestive of hydatid cyst on T1-weighted images include the isointense signal and hyperintensity on T2-weighted images.³

By deteriorating neurologic dysfunction, posterior laminectomy with intact cyst enucleation remains the horseshoe, which should also be combined with adjuvant anthelmintic therapy.⁷

Hanci et al⁸ and Prabhakar et al⁹ have also presented cases of lumbar spine hydatid cysts with deteriorating neurologic deficits treated with laminectomy and anthelmintic therapy with recession of deficits after decompression.

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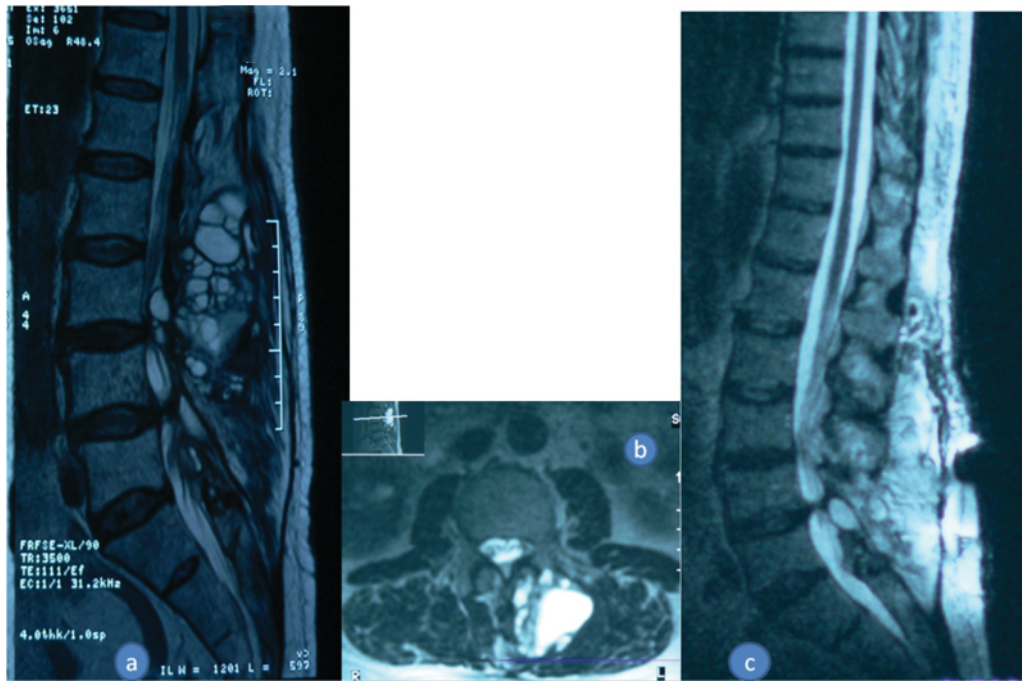


Fig. 1 (a) Preoperative sagittal sequences of MRI of lumbar spine, (b) axial sequences of the same examination, and (c) postoperative MRI T2-sagittal sequences of lumbar spine.

The unique features in this case were the initial deluding clinical and radiologic combination of findings regarding the extension of the lesion, extended intracranally and paravertebrally without significant vertebral body infiltration, and concomitant infection signs. Thus diagnostic suspicion should be raised by a cystic lesion type I or II according to Nabors' classification¹⁰ concerning hydatid disease as a rare but possible diagnosis.

Note

The patient has given his informed consent for publishing this case report.

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Conflict of Interest

None.

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