



Vertebromedullary hydatidosis: a case report

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Introduction and importance: The contamination of humans with the larval form of the tapeworm *Echinococcus granulosus* results in the parasitic disease known as hydatidosis. Even though hydatid disease is widespread in Maghreb nations, bone hydatidosis is still uncommon.

Case presentation: This article presents the case of a 12-year-old child with no particular pathological antecedent, who presents a spinal cord compression syndrome evolving gradually for 2 weeks whose objective clinical examination found a 2/5 paraparesis with a sharp pyramidal syndrome and subxiphoid sensory level. Medullary MRI has objectified an aspect of hydatid cysts at the level of D8 D9 and D10 compressing the spinal cord.

Clinical discussion: Management was surgical by decompression by laminectomy of stage D8, D9, and D10 under general anesthesia and put on albendazole, the diagnosis was confirmed by histopathological examination, the evolution was marked by a partial recovery of deficit.

Conclusions: Clinical symptomatology is vague with a gradually inescapable movement towards spinal or root pressure.

Keywords: case report, *Echinococcus*, hydatid cyst, vertebromedullary

Introduction

The contamination of humans with the larval form of the tapeworm *Echinococcus granulosus* results in the parasitic disease known as hydatidosis.

Even though hydatid disease is widespread in Maghreb nations, bone hydatidosis is still uncommon. The exceptional localization of costovertebral hydatidosis ranges from 0.18 to 1.21%^[1]. Due to the condition's lack of specificity and clinical latency, diagnosis is frequently delayed. Positive diagnosis and evaluation of spinal extension and soft tissue require imaging. Due to frequent recurrences, particularly in cases of incomplete excision, its evolution is subtle and its prognosis is poor.

Case report

This is a 12-year-old boy with no particular pathological history with the notion of contact with stray dogs.

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HIGHLIGHTS

- A 12-year-old child with no known pathological antecedent presents in this paper with a spinal cord compression syndrome that has been developing slowly over the past 2 weeks. An objective clinical examination reveals a 2/5 paraparesis with a sharp pyramidal syndrome and a subxiphoid sensory level.
- Hydatid cysts compressing the spinal cord at the levels of D8, D9, and D10 have been objectified by medical MRI. The patient was worked for decompression by laminectomy of stage D8, D9, and D10.
- The vertebral area of the hydatid growth is of unfortunate forecast and stays outstanding: 0.5–2% of the total locations of hydatids. Its clinical symptomatology is vague with a gradually inescapable movement towards spinal or root pressure.

The history of the disease goes back 2 weeks by the progressive installation of a spinal cord compression syndrome made of high back pain of inflammatory type and heaviness of both lower limbs associated with intercostal neuralgia.

The whole evolves in the context of apyrexia and good general condition.

On clinical examination, the patient is paraplegic according to the Medical Research Council (MRC) scale 2/5 proximal and 3/5 distal, with a xiphoid sensory level, the osteotendinous reflex is vivid, positive Babinski's sign, and no sphincter disorder. The rest of the examination is unremarkable.

The medullary MRI was in favor of an aggressive hemangioma of the vertebral body D9 with involvement of the right vertebral arch and the posterior side of the vertebral body of D8, Important invasion of the massively necrotic right paravertebral soft tissue in D8 and D9 with posterior epidural extension from D7 to D10 and anterior epidural in curtain embrace at the height of D9

responsible for ductal stenosis with spinal cord compression at this level without formal sign of spinal cord suffering (Figs. 1A and B).

An abdominal ultrasound that objectified a formation, round, hypoechogenic, heterogeneous, nontick wall, not vascularized with color Doppler, measuring 2.1 × 1.8 cm.

We operated the patient under general anesthesia by our professor posterior after roughing the paravertebral muscles, we found a lysis of the spiny of D8 and exit of pus after laminectomy of D7, D8, and D9 we found cysts in favor of hydatid cyst (Fig. 1C) then carrying out abundant washing using hypertonic serum is cleaning pus samples were carried out for the parasitological and bacteriological study confirmed the presence of *E. granulosus* scolex.

At follow-up, the patient partially recovered the deficit that became 4/5 in both limbs.

Histopathological examination confirmed the diagnosis, the patient was put on albendazole according to the protocol.

This case has been reported in line with the SCARE criteria^[2].

Discussion

A rare condition is vertebromedullary hydatidosis. It is responsible for between 1 and 2% of all locations and 40–50% of bone locations. Spinal localization is the most common and serious type of bone damage, primarily affecting the dorsal spine. It develops slowly and subtly, which explains the prevalence of diagnostic delays at the onset of complications, particularly neurological ones caused by spinal cord compression^[3], as in our case. The symptomatology varies depending on the location of the cyst, ranging from tetraplegia in cases of cervical involvement^[4] to paraplegia in our case of cauda equina. The formation of a cyst within the fracture canal or the dislocation of the infected bone floor could be the cause.

The hematogenous inoculation route through the root arteries continues to be the most likely pathophysiologically in these forms^[5]. The existence of a portovertebral shunt may also explain the pathogenesis of these forms^[6]. Vertebral hydatidosis typically affects young adults between the ages of 20 and 40, but it can also affect children or adolescents, as in our patient^[7]. Vertebral hydatidosis While spinal cord lesions are secondary to the migration of hydatid vesicles through conjugation holes or to bone destruction^[8], larvae confronted with the mechanical resistance of the bone develop by exogenous vesiculation, and the subperiosteal spaces are gradually invaded^[9]. Spinal hydatid involvement is typically primitive.

The radiological angle is portrayed by multilocular lacunar pictures of osteolysis 'honeycomb'.^[10] The diagnostic approach and evaluation of locoregional extension of the combination of computed tomography scan and MRI are particularly intriguing. With MRI, it is possible to evaluate the hydatid cyst's viability, as indicated by a T2 hypersignal, as well as the connections between soft tissues and the degree of spinal cord compression^[11,12]. The positive finding is anatomic-obsessive. In our situation, aggressive hemangioma of the vertebral body is the primary diagnosis.

Surgical treatment is the preferred option. It comprises of an extraction of the parasite and the remaining pit. It can be done either anteriorly (posterolateral thoracotomy) or posteriorly (laminectomy). The latter makes it possible to remove the spinal, costal, and pleuropulmonary lesions in a wide and thorough manner. The surgical procedure is reduced to a laminectomy with

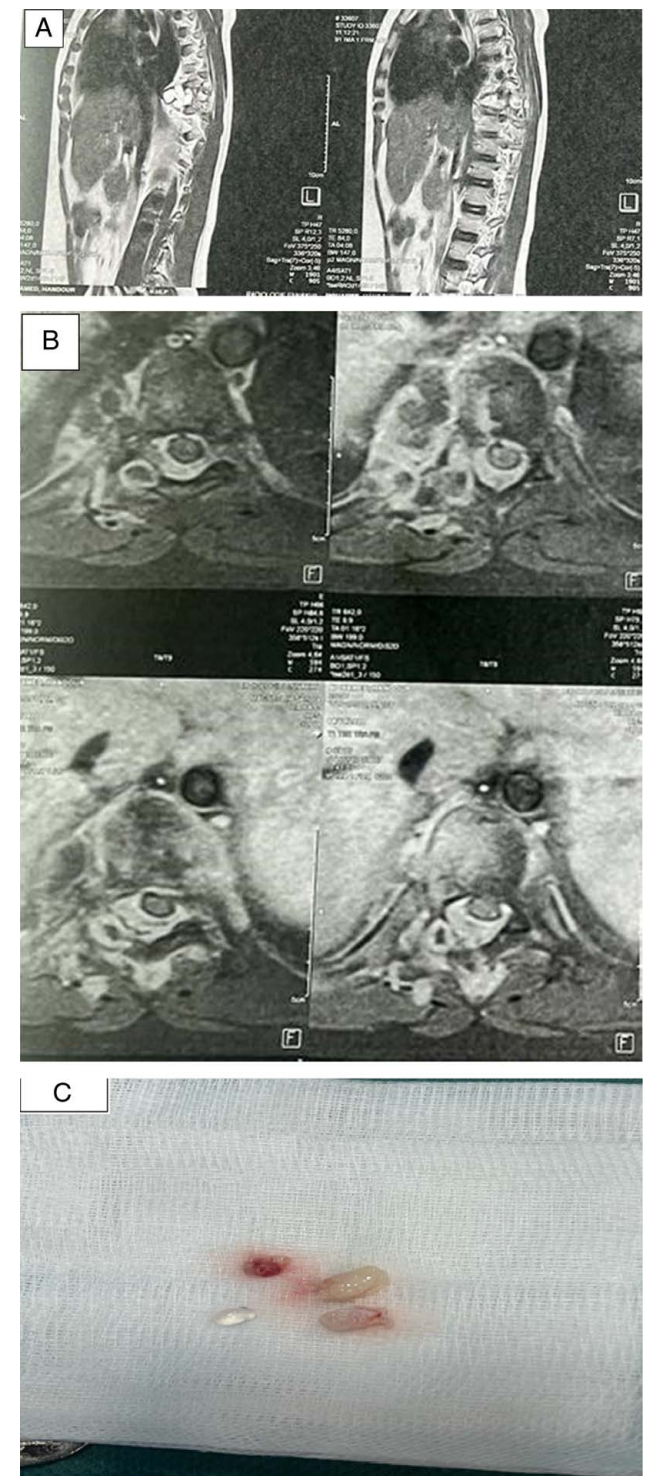


Figure 1. MRI. Sagittal image (A) and axial image (B) shows an aggressive hemangioma of the vertebral body D9 with involvement of the right vertebral arch and the posterior side of the vertebral body of D8. (C) Hydatid cyst found on the patient.

abundant washing using hypertonic serum without fixation in late forms, as was the case with our patient, and the rate of locoregional recurrence is high^[13,14]. In limited forms, the excision is frequently complete and healing is definitive.

Albendazole, an antiparasitic drug, is used in a systematic manner at 15 mg/kg/day for 3 months. It is not recommended to use it during the first 3 months of pregnancy^[15,16]. The clinical treatment which has been involved by certain groups in instances of repetitive, dispersed hydatidosis, considered inoperable or burst intraoperatively, the aftereffects of medication treatment of hydatid growths stay variable relying upon the series, with reaction rates going from 43.5 to 80%^[16].

Conclusions

The hydatid cyst's vertebral location has a poor prognosis and remains exceptional: 0.5–2% of the total locations of hydatids. Its clinical symptomatology is vague with a gradually inescapable movement towards spinal or root pressure.

Ethical approval

Written informed consent for publication of their clinical details and/or clinical images was obtained from the patient. Ethical approval has been exempted by our institution.

Consent

Written informed consent was obtained from the parents for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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The authors declare that they have no financial conflict of interest with regard to the content of this report.

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