

Primary lumbar hydatid cyst: a case report

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A five-year-old male patient presented with swelling in the lumbar region that had persisted for two weeks. Ultrasonography and magnetic resonance imaging revealed a cystic lesion inside his right back muscles. Intra-abdominal organs within the site of inspection were normal. The lumbar region was explored, and a 3x4x5 cm hydatid cyst was detected inside the latissimus dorsi muscles. The cyst was incised and the germinative membrane was removed. Albendazole was used for three months after surgery to prevent recurrences. No problem was detected in a five-year follow-up period. Primary hydatid cyst in the lumbar area is very rare. In hydatid cyst treatment, it is necessary to remove the cyst without contaminating adjacent organs. Medical treatment as an adjunct to surgery increases the chance of full recovery.

Key words: lumbar region, hydatid cyst, children.

Hydatid cyst disease (HCD) due to *Echinococcus granulosus* is most commonly seen in the liver. Ultrasonography (USG), computed tomography (CT), magnetic resonance imaging (MRI), X-ray, and serologic tests are useful in the diagnosis of this disease¹⁻⁵. Surgery is the treatment of choice for HCD. Medical treatment is used in cases of multiple cysts of small diameter or in order to prevent post-surgery recurrences or complications⁴.

In this paper, the research subject is a child with a hydatid cyst located in a rarely seen lumbar location.

Case Report

A five-year-old male patient presented with a swelling in the lumbar region that had been detected two weeks previously. An immobile mass of 4x4x4 cm was detected to the right of the midline during a physical examination (Fig. 1). Laboratory examinations revealed white blood cell (WBC): 11,500/mm³, hemoglobin (Hb): 12.1 g/dl and platelets (Plt): 233,000/mm³. Biochemical parameters were within normal range. The posteroanterior (PA) X-ray was normal. USG revealed no pathology in the internal organs. A USG of the lumbar mass showed cystic structure. MRI revealed

a 3.5x3x3 cm cystic lesion inside the right back muscles (Fig. 2). Intra-abdominal organs within the inspection site were normal. To remove the cyst surgically, the patient lay in a prone position under general anesthesia. The lumbar region was explored with a right paravertebral transverse incision. A 3x4x5 cm hydatid cyst was detected inside the latissimus dorsi muscles. Some of the cyst's content was aspirated, and serum saline (3%) was injected inside the cyst. The cyst was aspirated after 15 minutes. The cyst was incised, and the germinative membrane was removed (Fig. 3). Oral feeding was started the same day, and the patient was discharged on the second day. Albendazole (10 mg/kg) was prescribed for three months after surgery to prevent recurrences. The patient was followed for two years at an average interval of six months. No problem was detected in the five-year follow-up period.

Discussion

Eggs of *E. granulosus* are spread by animal feces. Generally, these eggs reach the human gastrointestinal system via food, later opening in the gut. Parasite embryos emerge from the eggs, pass the intestinal wall and reach the portal system and liver. Larvae most commonly



Fig. 1. Preoperative view of the patient.



Fig. 3. Germinative membrane.

settle in the liver (50-70%). If they access the systemic circulation, they most commonly settle in the lungs (15-30%) and, rarely, in the kidneys, spleen, peritoneum, brain and subcutaneous tissue^{1,4}. We could not find a case of hydatid cyst located between the lumbar muscles in the English language medical literature. Accordingly, this case may be the first identified in this location.

Spinal hydatid cyst is rare and is seen in 1% among all hydatid cyst cases. It was reported that the spinal involvement is thoracal in 50% and lumbosacral in 40%⁸. There was no spinal involvement in the MRI and clinical examination of our patient.

Cysts cause different clinical symptoms according to the organs involved and the cyst size. Although the prognosis is generally good in HCD, it may vary according to the organ in which the cysts settle, the size of the cyst and complications¹.

Diagnosis is made using anamnesis, physical examination, imaging techniques, and

serological tests. *E. granulosus*-specific IgE levels used in serologic diagnosis vary with different cyst locations⁷. In this case, IgE was negative. USG and MRI are preferred in diagnosis because they give quick results, are noninvasive, and have high prognostic values, but with these methods, the cyst nature can not be identified. USG can also detect a cyst, but it may sometimes be misdiagnosed as a solid mass because of its hyperechoic image. Diagnosis can be made earlier with CT because it can detect cyst wall calcifications and even young vesicles⁵. A differential diagnosis should include lipoma, lymphangioma, soft tissue tumors, and hematoma. In this case, CT and MRI are helpful in the diagnosis.

Primary treatment of disease involves medical treatment combined with surgery^{2,4}. Treatment should start with medications, and they should be given until the sixth month after surgery. Treatment with albendazole 10 mg/kg/day for at least eight weeks before surgery decreases recurrences^{2,4,6}. In this patient, because the cyst nature could not be identified with USG and MRI, we did not prescribe albendazole preoperatively. During surgical treatment of HCD, after cyst aspiration, the first scolicalid agent (hypertonic serum saline) is administered into the cyst to prevent cyst dissemination; then, the surgery team waits for 5-10 minutes. Next, the cyst is opened, and the water inside is aspirated. The organ cavity formed by the cyst is irrigated with a scolicalid agent.

Recently, preoperative albendazole and PAIR (Puncture, Aspiration, Irrigation, Reaspiration) treatment are used as an alternative to surgery for HCD treatment. PAIR is a treatment that could be applied to a simple, superficial cyst

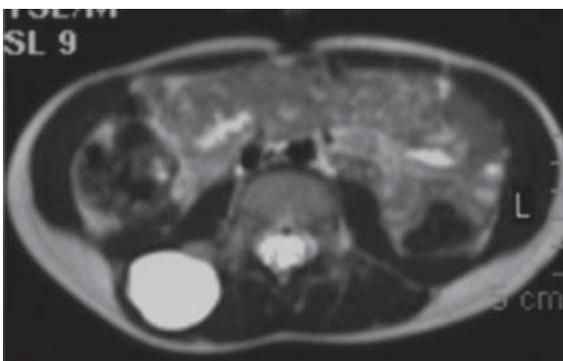


Fig. 2. MRI demonstrating a 3x3.5x3 cm cystic lesion inside the right back muscles.

with USG and CT assistance giving scolicalidal agents⁹. However, the cyst nature could not be identified with the diagnostic methods in this case and because of the atypic cyst localization, the case was not diagnosed as HCD and thus the PAIR procedure was not applied.

This case was managed with combined medical and surgical treatments. No recurrence was observed in the follow-up period. Irrigating the cyst content with 5% silver nitrate or serum saline during the operation was recommended to prevent recurrence. Injected serum saline causes sclerosis of the scolex. Hence, scolicalidal action occurs⁷. In this case, scolices were neutralized by 3% serum saline injection, and cysts were removed after 15 minutes.

Albendazole and mebendazole are used in the treatment of HCD. High-dose oral mebendazole may cause neutropenia, and high-dose albendazole may cause hepatotoxicity⁷. In this case, albendazole was used and no deterioration in liver function tests was observed.

In conclusion, a primary hydatid cyst in the lumbar area is very rare. In hydatid cyst treatment, it is necessary to remove the cyst without contaminating adjacent organs. Medical treatment as an adjunct to surgery increases the chance of full recovery.

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