



An Extraordinary Cause of Low-Back Pain and Foot Drop: Hydatid Cyst

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Abstract

Low-back pain is a clinical problem that is observed very frequently. Hydatid cyst is a disease that is created by *Echinococcus granulosus* and characterized by a cystic mass which grows slowly. The liver and the lungs are the most common organs involved in the E. Granulosis infections; however, retroperitoneum may also primarily be involved in rare cases. If retroperitoneal cystic mass is determined in the endemic regions, hydatid cyst should be considered as a cause. We report a case with a rarely observed and lately-diagnosed primary retroperitoneal hydatid cyst at the lower abdominal MRI, which has caused peripheral nerve pressure.

Key words: Hydatid cyst, MRI, low-back pain, retroperitoneal cystic mass

Introduction

Low-back pain is a clinical problem that is observed very frequently. Generally, the reason for low-back pain cannot be diagnosed, but in some cases an extraordinary factor may be revealed as the cause of the problem.

Hydatid cyst is a disease that is created by *Echinococcus granulosus* and is

characterized by a cystic mass that grows slowly [1,2]. The humans become infected through direct contact with the definitive hosts (dogs) or their faeces, or by orally receiving the parasite eggs. This is an endemic disease in the Middle East and in the Mediterranean Region. The liver and the lungs are the most common organs involved in the E. Granulosis infections; however, re-

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troperitoneum may also primarily be involved in rare cases [3]. As long as the cysts do not grow enough to form pressure, or open into the visceral cavities, or become infected, extrahepatically located hydatid cyst cases usually remain asymptomatic [3]. An accurate preoperative diagnosis is important for the planning and conducting of the treatment. In this article, we report a case with a rarely observed and lately diagnosed primary retroperitoneal hydatid cyst, which has caused peripheral nerve pressure.

Case presentation

A 35-year-old male patient applied to our clinic with pain in the left gluteal region, which had started 5 months ago, and a left foot drop. During the neurological examination, loss of strength in the left ankle, paresthesia at the L5 dermatome, and hypoactivity at the left deep tendon reflexes were observed. No other abnormal findings were observed at the general physical examination.

Lumbosacral Magnetic Resonance Imaging (MRI) was performed due to the reason of a probable lumbar disc hernia, but the results did not demonstrate any pathology to explain these symptoms. The electrophysiological findings of the EMG test were consistent with the axonal damage of the left peroneal nerve. At the lower abdominal MRI, a mass lesion with dimensions of 14x2.5 cm, in which cystic areas were monitored without a significant contrast involvement, was demonstrated in the left paravertebral area, extending along the psoas anterior (Figure 1a and b, Figure 2). At the left sciatic nerve, a thickening secondary to the lesion pressure was detected (Figure 3). Surgical treatment was performed on the patient and total pericystectomy was carried out. A great number of daughter cysts and a germinative membrane were monitored. The histopathological diagnosis was verified as a hydatid cyst. No other cysts were detected in the thoracic and abdominal Computed Tomography (CT) imagings, which were performed postoperatively to explore primary focus. With the aim of preventing recurrence, anthelmintic drugs were administrated to the patient, who was still being followed, and a positive response was received to the treatment. Following the surgical treatment, the problems of the patient dramatically disappeared.

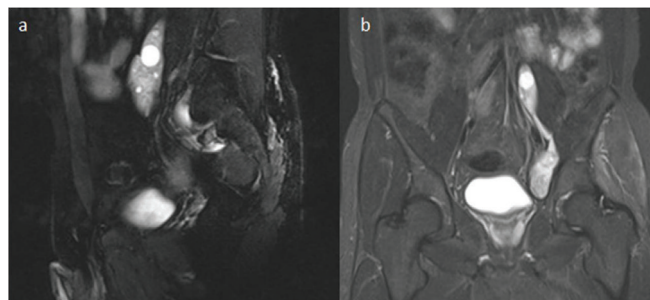


Figure 1. a. Sagittal T2W fat saturated abdominal MR image. A mass lesion at the medial side of the psoas muscle is extending down along the lateral pelvic wall, encompassing the psoas muscle at its superior part anteriorly and posteriorly, and contains multiple cystic components. b. Coronal T2W fat saturated abdominal MR image. In the left paravertebral area, a mass lesion with regular borders of approximately 14x2.5 cm dimensions, starting from the level of the corpus of the L4 vertebra, at the medial side of the psoas muscle extending down to the acetabulum level.

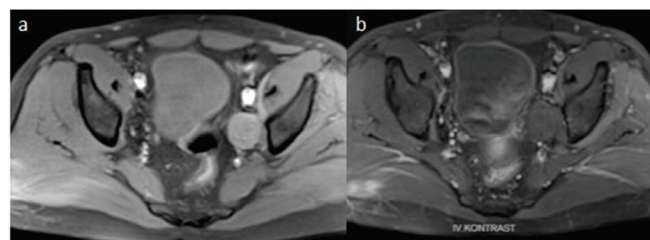


Figure 2. Aksial T1W fat saturated non-contrast (a) ve contrast (b) abdominal MR images show non-enhancing mass.

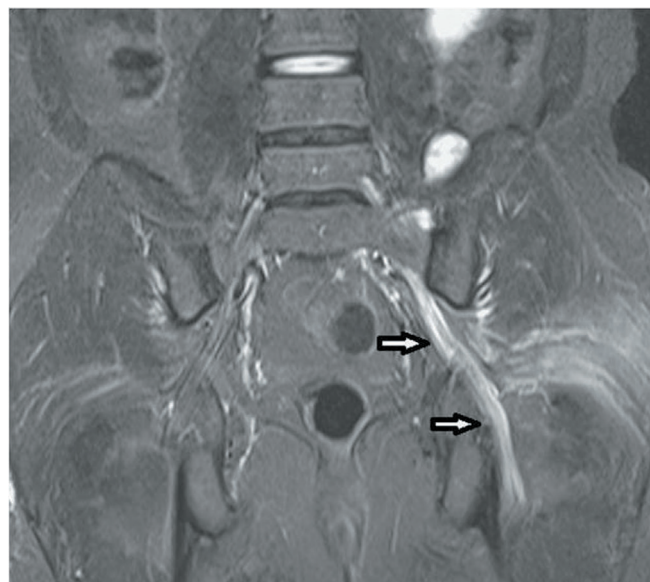


Figure 3. Coronal T2W fat saturated abdominal MR image shows a thickening at the left sciatic nerve (arrows).

Discussion

Echinococcosis is still an endemic problem in certain regions. *E. Granulosus* is a 5 mm long parasite that lives in the jejunum of the dogs for 5-20 months. When the intermediate hosts, such as the humans, ingest their eggs, the embryos that penetrate the intestinal mucosa are first entered into the portal circulation, and then

into the liver. A small number of eggs pass through the hepatic filter, enter the systemic circulation and distribute to the other organs. The larvae create cysts that are full of water. The cysts have outer membranes and a germinative membrane, which develops the daughter vesicles [3].

Isolated retroperitoneal hydatid cysts are formed either by the bypassing of the protoscoleces through the liver and the lungs hematogenously or by a lymphatic passage through the gastrointestinal system [4]. The symptoms of the hydatid cyst are considerably variable and they are never pathognomonic. The findings may differ due to the diameter of the cyst, the organ it involves, the interaction between the cyst and the adjacent tissues and infection or the rupture of the cyst. The initial findings manifest themselves usually due to the pressure to the adjacent organs or erosion. In our case, the hydatid cyst created pressure on the left sciatic nerve and this situation could not be diagnosed for a long time.

The preoperative diagnosis of the lesion is helpful to the surgery. During the diagnosis of the retroperitoneal hydatid cysts, BT and especially MRI are very useful for the evaluation of the anatomical position and the structure of the lesion. For the diagnosis, the serological tests should be evaluated together with the BT and MRI findings.

The only radical treatment of the hydatid cyst is surgery. The goal of the surgery is the extraction of the cyst as a whole without being ruptured. If the cyst is ruptured, a progressive infection may develop together

with a fulminant immune reaction. In order to kill the protoscolices, the operated area should be washed with 3% hydrogen peroxide for at least 5 minutes.

In the cases where peripheral nerve pressure findings are observed, but a lumbar disc hernia cannot be detected, existence of a mass that may exert pressure on the peripheral nerves, such as the sciatic nerve, should be taken into consideration. Especially in the endemic regions, in case of the existence of a retroperitoneal cystic mass, a hydatid cyst should be considered as a cause.

Conflict of interest statement

The authors do not declare any conflict of interest or financial support in this study.

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