



## Primary retroperitoneal hydatid cyst

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### ABSTRACT

Hydatid cysts are most common in the liver followed by lungs. Most are asymptomatic for prolonged periods. The other sites where hydatid cysts are found include the spleen, kidneys and brain. Retroperitoneal hydatid cysts are extremely rare. A 45-year-old male presented to the authors' emergency room with history of abdominal pain over the previous 7 days. It was insidious at onset and the pain had increased in severity during the 2 days before arriving at the hospital. The pain was radiating to the right lower limb. The abdomen showed a tender vague mass in the right lumbar region and iliac fossa. A CT scan confirmed a hydatid cyst in the retro peritoneum. The patient underwent laparotomy and excision of the cyst.

**Key words:** Hydatid cyst, retroperitoneum, primary

### Introduction

Hydatid disease is a zoonotic infection caused by larva of the *Echinococcus* tapeworm [1,2]. It is one of the oldest diseases known to mankind [3, 4]. It is still considered a serious health problem, especially in Mediterranean countries, South America, the Middle East, Australia and New Zealand [5].

The annual incidence of hydatid disease has been reported to be 18 to 20 cases per 100,000 inhabitants [6]. Most hydatid cysts occur in the liver (59-75%), followed by the lung (27%) [7]. Other locations include the spleen, kidney, brain, heart, ovaries and bones [5, 7]. Retroperitoneal location of hydatid cysts is very rare and few cases have been reported in the literature [4]. Primary retroperitoneal hydatid cysts were first reported by Lockhart and Sapinza in 1958 [4,8].

Here, a rare case of retroperitoneal hydatid cysts recently encountered by the authors is reported.

### Case Report

A 45-year-old male presented to the authors' emergency room with a history of abdominal pain over the previous 7 days. It was insidious at onset and had increased in severity during the 2 days prior to arriving at the hospital. The pain was radiating to the right lower limb. There was no history of fever, vomiting, bowel or bladder disturbances.

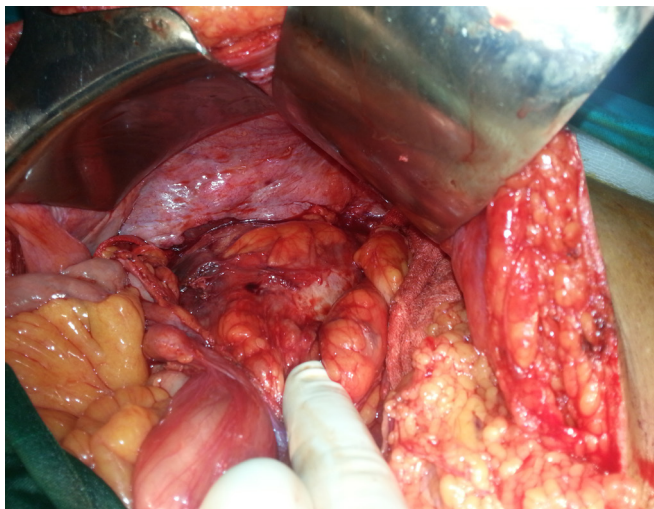
Upon general examination, the patient's pulse was 88/min and blood pressure was 130/84 mmHg. Temperature and respiratory rate were normal.

The abdomen was soft. There was tenderness and guarding in the right iliac fossa. A vague mass was felt in the right lumbar and iliac fossa region. An initial clinical diagnosis of appendicular mass was considered.

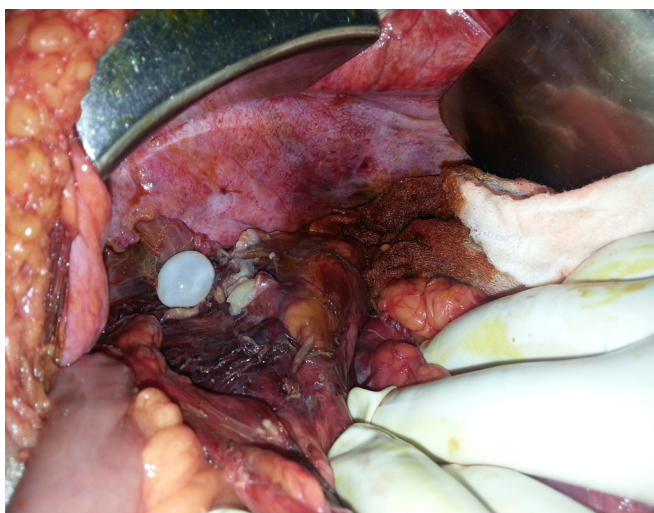
Basic routine blood investigations yielded normal results. Ultrasound of the abdomen showed hepatomegaly, splenomegaly and a large complex cystic lesion



**Figure 1.** CT scan of the abdomen portraying a large complex cystic mass in the right iliac fossa with cyst-within-cyst appearance.



**Figure 2.** Intraoperative view of the hydatid cyst in the retroperitoneal region after mobilization of the right colon.



**Figure 3.** Presence of daughter cysts in the retroperitoneal hydatid cyst.

in the right iliac fossa region. The patient's CT scan of their abdomen revealed a large and well-defined complex cystic mass in the right iliac fossa, anterior to the iliac vessel that measured 15.1x 10.5x 6.7cm, with cyst-within-cyst appearance and presence of free floating membranes. These features were consistent with hydatid cyst (Figure 1).

The patient underwent exploratory laparotomy. There was a large retroperitoneal swelling occupying the right iliac fossa and lumbar region (Figure 2). Intraoperatively, cetrimide was injected into the cyst before opening in order to kill the daughter cyst. The operative field was protected with mops soaked in cetrimide. A small opening was made in the cyst that showed multiple daughter cysts within it (Figure 3). The entire cyst was excised completely along with part of the psoas muscle to which the cyst was firmly attached. The patient's postoperative period was uneventful. The final biopsy report showed features consistent with hydatid cyst. The patient was given albendazole 400 mg twice daily for 3 months.

### Discussion

Hydatid cysts are caused by the cystic stage of infestation by *Echinococcus granulosus* [7]. The adult worm lives in the intestines of animals like dogs. Sheep, cattle and humans are intermediate hosts [7]. Most cases of hydatid cysts occur in the liver followed by the lungs [1,4]. The muscle is a rare location for hydatid cysts (0.7%-0.9%), even in endemic countries [9].

The isolated retroperitoneal location of hydatid cysts has been reported to be a very seldom occurrence [10]. The psoas muscle hydatid accounts for only 1%-3% of all cases [5,11]. Retroperitoneal involvement has always been considered to be secondary to rupture or spillage from liver hydatid cysts [3].

The growth rate of the cysts themselves is about 1 cm per year [5]. Isolated retroperitoneal hydatid cysts are formed either through the bypassing of the protoscoleces through the liver and lungs haematogenously, or by a lymphatic passage through the gastrointestinal system [12]. Hydatid disease in the muscles progresses slowly and is hardly ever life threatening [10]. When hydatid cysts are located in the muscle, diagnosis may be difficult and, as in this scenario, most cases are symptomatic and diagnosed either incidentally or when the cyst enlarges

and results in compression on adjacent organs [13].

Retroperitoneal hydatid cysts are usually asymptomatic and cause symptoms from pressure or because of complications, like infection or rupture [6, 7]. Both ultrasounds and CT scans are sensitive for detecting hydatid cysts. Ultrasounds are a non-invasive, inexpensive and repeatable imaging modality widely used and accepted in the diagnosis of this disease [9]. CT scan sensitivity ranges from 90-97% [5]. Surgery is the mainstay of treatment of hydatid cysts [5]. Total cystectomy is considered to be the gold standard in terms of surgical approach [4]. However, the cysts in the retroperitoneal space can be associated with dense adhesions [14] and hence a partial cystectomy may be the treatment of choice to avoid injuring neighboring structures.

Postoperative antihelminthic therapy has been shown to prevent recurrence of the cysts [4]. The treatment consists of administration of albendazole for 3 to 6 months [15].

### Conclusion

Retroperitoneal hydatid cysts are extremely rare. Most of the cases of retroperitoneal hydatid cysts are secondary to rupture or spillage of liver hydatid cysts, although they can sometimes be primary. CT scans and ultrasounds are both suitably sensitive investigatory tools. Complete removal of the cyst remains the best choice for treatment.

### Conflict of interest statement

The authors have no conflicts of interest to declare.

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