Case Report

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Primary retroperitoneal hydatid cyst: a rare case with atypical presentation

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ABSTRACT

Primary Retroperitoneal Hydatid Cyst is a rare presentation of a disease caused by *Echinococcus granulosus*. Any organ of the body could be affected by the disease, although there are only a limited number of cases where the primary lesion is in the retroperitoneum. A definitive diagnosis requires a combination of imaging, serologic and immunologic tests. Ultrasonography, computed tomography and magnetic resonance imaging are highly accurate in detecting a hydatid cyst. Diagnosis of retroperitoneal hydatid cysts remain difficult as the clinical and laboratory findings are usually nonspecific. We report a case of a 47-year-old male who had an incidental finding of a retroperitoneal mass behind the left kidney. The CT scan of abdomen was suggestive of Retroperitoneal Hydatid Cyst. Patient underwent marsupialisation of cyst. Histopathological Report was suggestive of Hydatid Cyst.

Keywords: Cyst, Hydatid cyst, Retroperitoneal mass

INTRODUCTION

Hydatid disease is a parasitic infection caused mainly by *Echinococcus granulosus*.¹ Echinococcus multilocularis is usually associated with hydatid disease of lung. Exposure to food and water contaminated by the faeces of an infected definitive host or poor hygiene in areas of infestation can lead to echinococcosis. Many hydatid cysts remain asymptomatic, even into advanced age. The parasite load, the site, and the size of the cysts determine the degree of symptoms.

Theoretically, echinococcosis can involve the liver (63%), lungs (25%), muscles (5%), bones (3%), kidneys (2%), brain (1%), and spleen (1%). The liver is the most commonly involved organ followed by the lungs. These 2 organs account for about 90% of cases of echinococcosis.

Symptoms range from abdominal pain, cough, dyspnoea to jaundice, urticarial, haemoptysis and decreased level of consciousness due to cerebral involvement. Retroperitoneal cysts usually spread from a primary liver cyst.

A primary retroperitoneal hydatid cyst is extremely rare.²⁻⁴ The most common complaint is abdominal pain; however, the clinical features may vary according to the location of the cyst in the retroperitoneum. Described here is one such report.

CASE REPORT

A 47-year-old male presented with severe dyspnoea and mild abdominal pain. He did not have fever or any other abdominal complaints. The patient had tachycardia (Heart rate of 100/minute) and raised blood pressure of 200/100 mmHg. Abdominal examination did not reveal

any specific findings. Patient was started on antihypertensives which controlled the blood pressure and further investigated for abdominal pain. Ultrasound of abdomen was done which was suggestive of retroperitoneal mass.



Figure 1: Transverse view of the cyst as seen on CT displacing the kidney anteriorly

Contrast CT of the abdomen revealed a 8x8.4x15 cm multicystic lesion with calcified walls retroperitoneally in left perirenal space which was highly suspicious of hydatid cyst.

Liver and lungs did not reveal any cysts. IgG echinococcus was done which was negative. Patient was worked up for surgery. All blood investigations were normal. Hypertension was controlled with medication. Exploratory laparotomy was done under general anaesthesia where cyst was found in the retroperitoneum displacing the left kidney upwards and medially.



Figure 2: Coronal view of the cyst.

The cyst contents were aspirated and Povidone Iodine was injected into the cyst and reaspirated after a short contact period. Cyst was opened and the ectocyst and

endocyst were removed. Abdominal drain was placed in the cyst and abdomen closed. Cyst fluid and cyst wall specimens were sent for histopathological examination. Patient tolerated the procedure well and had an uneventful post-operative course. He was discharged after 5 days with a month-long course of albendazole. Histopathology Report was suggestive of hydatid cyst.



Figure 3: Hydatid cyst as marked.



Figure 3: Cyst opened (left kidney seen on the right).

DISCUSSION

Hydatid disease caused by Echinococcus has two hosts. Dog is a definitive host and the parasite lives in the proximal small bowel. Man is an accidental host and is a dead end in the life cycle of the parasite i.e. adult tapeworm is not formed. Contact occurs through ingestion of contaminated water and food. Larvae (onchosphere) penetrate the stomach and reach the liver through portal circulation where it forms the cyst. The cyst contains protoscolices which can form new cysts in the human host. Hydatid cyst consists of three layers: Pericyst, Ectocyst and Endocyst. Pericyst is the outer most covering and acts as a mechanical support. Bile ducts and blood vessels become incorporated within this structure. Ectocyst is the chitinous layer that acts as a barrier. Endocyst is the innermost layer and produces the

infective clear hydatid fluid containing daughter cysts.⁵ Liver is most commonly involved and acts as a first line of defence in preventing widespread dissemination of the larvae. Next commonly involved are the lungs. Retroperitoneal involvement was always thought to be secondary to rupture or spillage during surgery of liver cysts. Primary retroperitoneal hydatid cysts without other organ involvement was first reported by Lockhart and Sapinza in 1958 and are rare entities.^{2-4,6}

Various modes of spread have been suggested to explain the escape of liver and lung involvement-via lymphatics⁷ or via veno-venous shunts within the liver.^{7,8} Airborne transmission and direct implantation of the embryo in the bronchial mucosa is also considered as one of the modes of transmission. Through the bronchial mucosa, the embryo can enter the venules and into the heart thereby spreading to other areas. But this remains largely theoretical and needs to be proved.⁹

Hydatid cysts largely remain asymptomatic. Symptomatic cysts present mostly with abdominal pain. ¹⁰ Large retroperitoneal cysts could present with symptoms related to compression of surrounding structures. Radiography, USG and CT studies are important for the diagnosis of echinococcal disease. Plain abdominal X-rays may show calcifications of the cystic wall. Ultrasonography is the investigation of choice for the detection of hepatic and extra hepatic echinococcal cysts. CT scan is required for confirmation of the cyst and to rule out any other organ involvement.

Besides the above investigations serological tests can also be used for diagnosis such as IgG antibody tests or Radio allegro sorbent tests (RAST) but found positive in 90% of the patients with active disease only. Antihelminthic therapy with albendazole is usually given for small(<4cm) and asymptomatic cysts. For symptomatic or large hydatid peritoneal cysts, surgery is the treatment of choice. Surgery can be either radical or conservative.

Total cystectomy, whenever possible, is the gold standard. If not possible, Excision of peri cyst with marsupialisation of cyst is done with a drain placed in situ.³ PAIR (Puncture Aspiration Injection Re-aspiration) can also be done for hydatid cysts with injection of Solicidal agents such as 95% ethanol, hypertonic saline, etc. into the cyst. Although primary retroperitoneal hydatid cysts are rarely found, it should be considered a as differential when findings suggestive of a mass in

retroperitoneum with abdominal pain as a symptom occurs in any patient especially in endemic areas of the disease. ¹⁰

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Institutional Ethics Committee

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