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CASE REPORT

Hepatic Hydatid Cyst in an 8-year Old Bangladeshi Boy: A Case Report

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ABSTRACT

Hydatid cyst is caused by the larval form of the parasite *Echinococcus* in humans. It is common in areas where dogs and cattle are kept. The larval form of *Echinococcus* infects mainly liver and lungs. Children are more susceptible irrespective of ages. Clinical presentations of hepatic hydatid cyst are varied from asymptomatic hepatomegaly to various gastrointestinal complaints. We are reporting a case of hepatic hydatid cyst in an 8-year old Bangladeshi boy who presented with abdominal pain, fever, vomiting and decreased appetite.

Key Words: Cyst, Children, Hydatid, Liver

INTRODUCTION

Hydatid cyst is a zoonotic disease of significant public health caused by the larval form of tapeworm mainly *Echinococcus* in humans. It is endemic in the Mediterranean countries, Central Asia, Northern and Eastern Africa, Australia, and South America.¹ Cystic *Echinococcosis* (CE) accounts for more than 95% of the estimated 2–3 million global cases.² In adults, liver is commonly infected by larval form of *Echinococcus* whereas lungs get infected more in children.³ Liver cyst in the pediatric age group is not so common. The other rare sites are kidney, spleen, thyroid, bone, pancreas and breast. Human become accidental hosts after ingestion of infective eggs of adult *Echinococcus*.

Hydatid cyst has a very slow growth rate, 3 to 5 mm per year. So, the patients may remain symptom free up to 30 to 50 years. Hydatid cyst rarely presents in early childhood. The delayed presentation of hydatid cyst has become a challenge for diagnosis and effective management in pediatric age group. The untreated liver hydatid cyst may gradually grow followed by rupture into peritoneal cavity or develop fistula with adjacent organs. Patient may develop anaphylactic shock following spillage in the abdominal cavity which ultimately leads to death.⁵

CASE REPORT

An 8-year old male child, hailing from Tangail presented to the department of Pediatric Gastroenterology and Nutrition with history of abdominal pain, fever and vomiting. Fever was low grade, intermittent in nature, not documented, associated with decreased appetite. There was no history of jaundice, contact with pet animals. On examination, he was mildly pale, anicteric, vitals were normal and normal anthropometry. Liver was just palpable with no other mass or organomegaly. Routine investigations along with radiological imaging were done. Complete blood count (CBC) showed haemoglobin (Hb) -12 gm/dl (11.5-15 gm/dl) and total WBC count- 11,000 cells/mm³. Erythrocyte sedimentation rate (ESR) was elevated (46 mm in 1st hr). Liver function test (LFT) and renal function test (RFT) along with urine examination were normal. Serum lipase and amylase were normal. Plain X-ray of abdomen (erect posture) showed ill defined rim calcified opacity in hepatic area, suggestive of hydatid cyst calcification (fig 1). Abdominal ultrasonography (fig 2) revealed a large cystic area 7.6 x 7.2 cm having detached rim calcified membrane within it and giving cyst within cyst appearance with ill defined sedimentation was seen in the right lobe of liver, which was suggestive of hepatic hydatid cyst. *Echinococcus* Antibody was positive.

Medical treatment with Albendazole failed to decrease the size of cyst.

With these clinical scenario and radiological findings, the child underwent for surgery. Endocystectomy with excision of cyst was done



Fig 1: Plain X-ray of abdomen (E/P) showing ill defined rim calcified opacity in hepatic area



Fig 2: Abdominal sonography showing cystic area with hydatid cyst (post-surgical) calcified membrane



Fig 3: Excision of hepatic hydatid cyst (post-surgical)

(fig 3). About 500 ml collection with jelly like content was aspirated from a large cystic lesion measuring about 8cm x 6cm x 6cm from inferior surface of liver.

DISCUSSION

In endemic countries, hydatid disease is still a major health problem and it requires appropriate measures for eradication.⁶ Clinical presentation of hydatid disease depends on the organs that are involved. Majority of patients remain symptom free and the incidental diagnosis is very often during clinical evaluation or radio imaging study for other medical conditions.⁷

Our case didn't present with the common presentation of abdominal mass, rather he presented with abdominal pain, fever, vomiting and anorexia.

Males are more commonly infected⁸ but in one study found that males and females were equally affected.⁹

The age of presentation varies from 1 to 14 years but the earliest presentation was seen in a six month old infant.¹⁰ Our patient is an 8-year old male child.

Hepatic hydatid cyst present with abdominal mass, abdominal pain, fever, loss of appetite, nausea, weight loss, hepatomegaly and jaundice.⁵ Our patient also presented with abdominal pain and fever but not with abdominal lump. Lungs more commonly involved than the liver in

children.¹¹ However, Talaizadeh found that lungs and liver were almost equally affected.⁸

As lung tissue has less elasticity, the growth of the cysts is rapid in the lungs than in the liver. This may justify the lower incidence of hydatid cyst in liver.⁸ Our patient had hepatic hydatid cyst.

Investigations required for diagnosis include radiological (Abdominal sonography, CT/MRI, plain X-ray abdomen) and serological findings (Echinococcus Antibody).¹² In our case, CBC was unremarkable, plain X-ray of abdomen (erect posture) showed ill defined rim calcified opacity in hepatic area, suggestive of hydatid cyst calcification (fig 2). Abdominal ultrasonography revealed a large cystic area having detached rim calcified membrane within it and giving cyst within cyst appearance with ill defined sedimentation seen in the right lobe of the liver, which was suggestive of hepatic hydatid cyst.

Liver sonography revealed a correct diagnosis in 96.4%.¹³ In our case USG was suggestive of hydatid cyst. Echinococcus Antibody was also positive.

Naturally, the cyst may gradually enlarge in size or progress to death or may calcify, if left untreated.¹⁴ Our case also had calcified rim of

cyst. The fluid of cyst is highly allergenic and may cause anaphylaxis. The cyst may rupture in peritoneal cavity which can be life threatening.⁷ In pediatric age group, intra-cranial hydatid cysts are more common which can be confirmed by the cerebrospinal fluid (CSF) study for the presence of scolices.¹⁵ Nothing such was seen in our case.

A Benzimidazole agent is frequently used before surgery to sterilize the cyst content which also reduces the risk of anaphylaxis and dissemination.¹⁶ In our case, the child was treated with 3 cycles of Albendazole two weeks before surgery. The aim of surgery is inactivation of cestode, parasite evacuation and removal of germinal layer.¹⁷

Cystotomy and pericystectomy are the preferred surgical techniques.¹³ In our case, endocystectomy with excision of cyst was done.

Postoperative complications of hepatic hydatid cyst include bleeding, bile leakage, incisional fistula, cholangitis, wound infection, sepsis, pneumonia and pulmonary embolism.¹⁸ No postoperative complications were observed in our patient.

Like all zoonotic diseases, prevention should be considered by breaking the transmission cycle. Preventive measures including health education, social awareness, personal hygiene and ingestion of properly cooked meat will help to prevent the spread of the disease.¹

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