

Giant Splenic Hydatid Cyst in Pediatric Age

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ABSTRACT

Giant hydatid cyst in spleen is rare in the pediatric age group. We came across two cases of giant splenic hydatid cysts in pediatric age group, out of which, one case had pulmonary, liver and splenic hydatid cyst which was managed with single stage approach. As a single stage approach is a novel method with less morbidity, it should be adopted as a preferred method for the management of pulmonary and abdominal hydatidosis. Hydatid cyst is described as a slow growing cyst in literature, but the presentation of giant size hydatid cyst in our 7 and 12 year old child is difficult to explain by this concept of slow growth.

KEYWORDS: Splenic hydatid cyst, paediatric age, spleen

INTRODUCTION

Berlot first described splenic hydatid cyst as an autopsy finding in 1790.¹ Hydatid disease is endemic in farming countries but occurs worldwide. The most common site of the disease is the liver (63%), followed by the lungs (25%), muscles (5%), bone (3%), kidney (2%), and brain (1%).¹ Other sites such as the heart, spleen and pancreas are very rarely affected. Splenic hydatid disease has been reported to constitute up to 4% of cases of abdominal hydatid disease. The rarity and non suspicion of splenic hydatid disease may pose a diagnostic challenge for clinicians, especially in non-endemic areas.

CASE REPORTS

Case 1

A seven-year-old girl presented to our Pediatric Surgery Department with complaint of dull aching painful abdomen with gradually progressive lump since the past one year together with on and off vomiting after the food intake. On examination, the child was moderately nourished, having lump of the size of approximately 20x20 cm in the left upper abdomen arising underneath the left costal margin, with the liver was palpable 3cm below the costal margin. On ultrasound abdomen, a large cystic lesion of the size 20x15x8 cm³ was present in the spleen

with echogenic debris in it. Two cystic lesions were noted in the liver of size 5x8x4.5cm³ and 5x3x3 cm³ in the right and left lobe respectively. On Contrast Enhanced Computed Tomography (CECT), a cystic hypodense lesion with hyperdense concretion in it of size 15x20x7.5 cm³ was present in the spleen and two small cystic hypodense lesion seen in the liver. Routine complete hemogram (CBC), Liver Function Test (LFT), Renal Function Test (RFT) and chest X-ray were normal. Exploratory laparotomy was done on which the cysts was aspirated and hypertonic saline was injected following enucleation of the cyst with spleen preservation. The hepatic cysts were enucleated in the similar manner. All cysts were examined for complete removal. Abdomen was closed with sub hepatic drain. The drain was removed on the 7th day. Child was discharged on the 10th day.

Case 2

A 12 year-old boy presented to our Pediatric Surgery Outpatient Department with dull aching pain in the left side of abdomen since past 3 years. A lump in the abdomen was also noticed since past 2 years with gradual increase in last two months. There was a history of chest infection and chronic cough. Child had seizure associated with fever a month back, for which the child was taking phenytoin 50 mg three times a day since. On examination, the child was moderately preserved and the lump was present in left upper abdomen of size approximately 15x15 cm. The lateral, medial, and inferior border was appreciated, but the upper border cannot be reached. Liver was palpable 2cm below the costal margin. Routine CBC, LFT and RFT were within normal limit. Chest x-ray showed a homogenous opacity in the left lower lung field (Fig 1). Ultrasonography of the abdomen and pelvis revealed a large cystic lesion involving the left side of the abdomen and reaching into the pelvis and spleen.

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CECT head was normal. CECT thorax showed a cystic lesion with membrane in it, of size 10.2x7.8x6 cm³ in the lower lobe of left lung. No pleural effusion was noted. CECT abdomen & pelvis revealed a large cystic lesion with membrane in it, of size 8.1x7.8x12 cm³ in the spleen and 3.3x2.7x2cm³ in the right lobe of the liver. Other viscera was normal (Fig 2). Patient was managed with left thoracotomy on which the cyst came out spontaneously with positive pressure ventilation (Fig-3). Pleural cavity was closed over intercostal drain in 5th intercostals space. Exploratory laparotomy was also performed, in which splenic cyst was aspirated and injected with hypertonic saline. After 10 minutes, the cyst



Figure 1. Chest Xray (PA view) showing Lt lower lung field homogenous opacity.

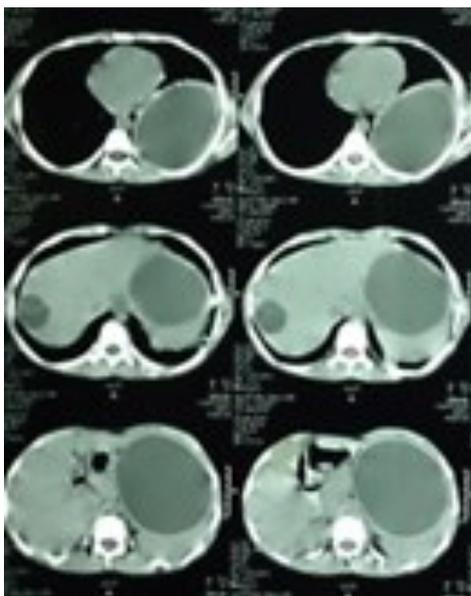


Figure 2. CECT thorax abdomen showing hydatid cyst in lung liver and spleen.

was enucleated with spleen preserved. The liver cysts were aspirated and enucleated with the same method. Abdomen was closed with subhepatic drain which was removed after 7th day. Chest tube was removed on the 5th day. Histopathology reports were consistent with hydatid disease.

Both children were given preoperative albendazole and postoperatively for 6 weeks and were doing well on follow-up. Both are followed with clinical examination, chest x-rays and ultrasonography.



Figure 3. Lung hydatid cyst coming out after positive pressure.

DISCUSSION

Hydatid splenic cysts may remain asymptomatic for years until showing symptoms due to space occupying effect within the organs or systemic reactions due to the rupture.² Rupture of the cyst in the liver leads to implantation of fertile scolex over the exposed visceral surfaces or escape of daughter microcysts in the systemic circulation from the liver and lung filtration pathways. This may lead to involvement of other viscera like spleen.¹ Spleen can also be involved by retrograde transmission of oncosphere through the portal system. The differential diagnosis for splenic hydatid cysts includes other splenic cystic lesions such as epidermoid cysts, pseudocysts, splenic abscesses, hematomas and cystic neoplasms of the spleen.³ Splenic hydatid cysts are usually asymptomatic, solitary slow growing and incidentally diagnosed. But in our cases the hydatid cyst in spleen were huge in comparison to the cyst of the liver and the lung, which may be due to the rapid growth of cyst in the splenic tissue or it is a primary cyst of the spleen. The main symptoms associated with the disease are abdominal discomfort, pain and palpable mass in the left upper quadrant.¹ Definite diagnosis can be easily made by ultrasonography and abdominal CECT. They will reveal cystic mass with other features of

hydatid cyst like laminated or floating membrane or hydatid sand. CECT scan has advantage over ultrasound as it can easily detect calcifications and daughter cysts and is more sensitive and accurate.⁴ There is no serological and immunological test pathognomonic for hydatid disease. Eosinophilia, the Casoni test, complement fixation test, and indirect hemagglutination test may be helpful for diagnosis of splenic hydatidosis. Eosinophilia is detected in 20% to 50% of patients with splenic hydatidosis, but its detection cannot help much since false positive results may develop in the other parasitic diseases. In our case serological test are not done because of its high cost, lesser availability and high false negative/positive rate.

Nowadays, so many modalities present for management of hydatid cyst such as medical therapy, PAIR (puncture, aspiration, injection & reaspiration), open and laparoscopic excision of cyst. Owing to the risk of spontaneous or traumatic rupture, splenic hydatid cysts are usually treated with open surgery.³ Cyst fluid can be drained with puncture and aspiration to reduce the intracystic pressure, but splenectomy without puncturing the cyst is preferable.³ In general, surgery like total splenectomy to more conservative procedures (partial splenectomy, cyst enucleation, or omentoplasty after partial resection of the cyst wall) is the best treatment for splenic hydatid cyst.

Splenic salvage is also justified for pediatric cases to avoid septic complications. In fact sepsis-related mortality rates are 4% in children and 1.9% in adults.⁵ Pre and postoperative one-month courses of Albendazole should be considered in order to sterilize the cyst, decrease the chance of anaphylaxis and decrease the tension in the cyst wall (thus reducing the risk of spillage during surgery) and to reduce the recurrence rate postoperatively. In the literature, incidence of perioperative anaphylaxis is reported at around 2-3%. The complications of untreated splenic hydatid cyst are mainly secondary infection, inflammation, acute abdomen, compression of other viscera, intraabdominal rupture and fistulization to the bowel.⁶ Teke et al.⁷ reported a splenic hydatid cyst perforating into the left colon and causing massive gastrointestinal bleeding. The recurrence rate appears to be high (4.6%-22.0%) in hydatid cyst after surgery.⁵

CONCLUSION

Hydatid cyst in the spleen are rare, however it must be kept in the differential diagnosis of splenic mass in endemic region. Hydatid cyst grows rapidly at an unusual site like in the spleen. They are usually managed with preservation of the spleen. When pulmonary hydatid cyst occurs in association with abdominal hydatid cyst, they should be managed with a single stage operation.

Conflict of interest- none declared.

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