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Case Report

Primary calcified hydatid of spleen: a case report

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ABSTRACT: Most splenic cysts are parasitic. Hydatid disease, a parasitic disease, is endemic in Kashmir. Splenic involvement alone in hydatid disease is very rare. It may remain asymptomatic or, by causing pressure due to increasing size on adjacent viscera, may become symptomatic. A non specific presentation always makes diagnosis difficult. A case of hydatid spleen in a young boy who presented with abdominal pain is reported. Radiology complemented with serology made the diagnosis. Hydatid disease should be considered as a differential diagnosis in every patient with a calcified cystic mass of the spleen in endemic areas.

KEY WORDS: Calcified hydatid; Spleen; Splenic cyst; Case report

INTRODUCTION

Cystic lesions of the spleen are generally rare, and a parasitic origin is relatively unlikely. Non-parasitic cysts account for less than one-third of all splenic cyst cases. Splenic hydatid cysts are rarely encountered, the spleen being the third commonest site for echinococcosis after the hepatic and pulmonary filters are bypassed. They account for up to 4% of all hydatids and are encountered at least once in their career by most surgeons at first or second hand, especially in endemic areas. The pathogen is a tapeworm, *Echinococcus granulosus*. Hydatid spleen has no predilection for any age and sex. It may be detected incidentally or present with non specific complaints. However up to 30% are incidental findings in asymptomatic individuals. Splenic hydatid cysts may suppurate, fistulise to adjacent organs or rupture into the peritoneal cavity or may present with massive lower gastrointestinal bleeding. Rarely splenic hydatid cyst perforates into the stomach, colon, thorax, or fistulise to the skin. Serology, abdominal ultrasound and computed tomography make definitive diagnosis. Management varies from spleen preservation to splenectomy.

CASE DETAILS

A 13 year old male, a cattle rearer by profession, presented with dull aching pain in left upper abdomen of seven months duration. On general physical examination there was nothing remerkable. Systemic examinations as well as abdominal examination were normal. Hemoglobin of 14 gm/dl, white blood cell count of 9,500 /mm^3 with no eosinophilia was recorded. Hydatid serology was highly suggestive of hydatid disease. Upright X- ray abdomen was unremarkable. Ultrasonography abdomen showed calcified cyst in spleen with no other evidence or foci of hydatid disease elsewhere in the body (**Figure 1**). Computed tomographic scan of abdomen showed a cyst with calcification suggestive of hydatid spleen (**Figure 2**). Patient had albendazole therapy (10mg/kg/day for 6 months) but had no response. Patient was advised surgery in view of calcified hydatid, contraindication to PAIR, but refused in view of fear of surgery and did not report back for follow up.

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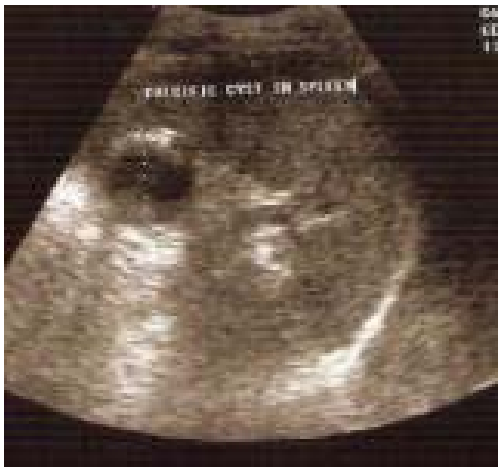

Figure 1: Ultrasonography abdomen showing calcified hydatid cyst

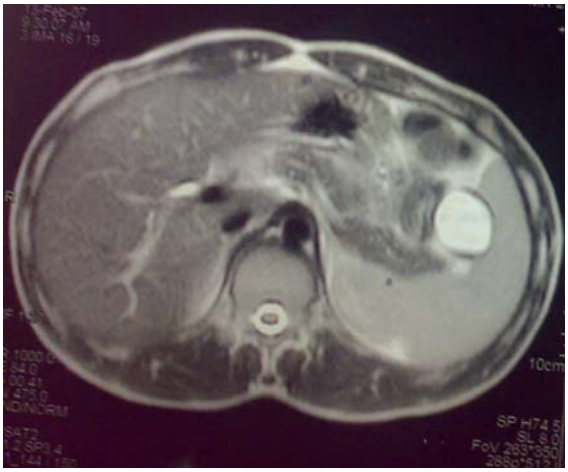

Figure 2: Computed tomography abdomen showing calcified hydatid cyst

DISCUSSION

Hydatid spleen constitutes 0.5-4 percent of all cases of echinococcosis[1]. The disease is endemic in the Mediterranean, Eastern Europe, Middle East, South America, Australia and South Africa. Men and women of all ages are susceptible to infestation of hydatid spleen. A peculiarity of hydatid spleen is that it is the only parasitic cyst of spleen, no other parasitic cyst being found in spleen. The mode of infection is hematogenous, lymphatic or direct spread from other viscera and parasite settles in any part of spleen. Hydatid spleen is primary or secondary. Primary hydatid spleen is very uncommon, usually takes place by the arterial route or retrograde venous route. Secondary hydatid spleen usually follows systemic dissemination or intraperitoneal spread following ruptured hepatic hydatid cyst. Splenic hydatid cysts are usually solitary with multiple cysts being found in one-quarter to one-third of the cases[2].

Splenic hydatid disease is usually an accidentally discovered mass in the abdomen mostly in left hypochondrium and less frequently in the epigastrium. Pain usually a dull dragging ache, is often the first clinical sign. Abdominal pain, tenderness and fever are the most common presenting symptoms Dyspepsia, constipation due to pressure on colon, hypertension due to left renal artery compression, and dyspnoea due to pushing up of the left diaphragm may also occur. Other forms of clinical presentation include the rupture of splenic echinococcal cyst with anaphylactic shock, traumatic or spontaneous, acute abdomen, rupture of longstanding splenic hydatid cyst into bronchial tree or even fistulizing to the colon.

A battery of serological tests are available for confirming hydatid disease, notable being indirect haemagglutinition and serum immunoelectrophoresis. The presence of the arc 5 of Capron on immunoelectrophoresis is the most reliable laboratory finding in human hydatidosis.

Radiographic appearance of splenic hydatidosis varies and is influenced mainly by the location of the cyst, age of the cyst, and associated complications, such as secondary infection and rupture[3]. Various radiological modalities used for diagnosis are plain X-ray abdomen, ultrasonography, computed tomography scan, magnetic resonance imaging and arteriography. Plain X-ray of the abdomen may show a soft tissue mass with peripheral calcification in the left upper quadrant or displacement of the stomach, left kidney and left colon flexure. Solitary anechoic lesions are typical findings on ultrasonography, rarely mixture of infolded membranes, scoleces, and hydatid sand may produce a highly echogenic (solid) pattern on sonography because of the large acoustic impedance differences between the intracystic components. On computed tomography scan, there is an attenuation value of water and the calcification is best demonstrated on computed tomography scan. The lesions do not show enhancement with administration of contrast material. Differential diagnosis of hydatid spleen includes dermoid cyst, pseudocyst, large solitary abscess or hematoma, intrasplenic pancreatic pseudocyst, and cystic neoplasm of the spleen on ultrasonography or computed tomography. Other causes of cystic splenic masses, such as parasitic cysts, various vascular tumors, fluid collections related to pancreatitis, benign tumors of the spleen, and cystic metastases, and the primary hemochromatosis of spleen which show calcification.

Diagnosis of splenic hydatid disease is always challenging. Patient's personal history, the presence of calcification of the cyst wall, and especially the presence of daughter cysts in a large cystic lesion or concomitant cystic lesions in the liver or other organs, are helpful for diagnosing splenic hydatidosis. Medical treatment with albendazole for splenic hydatid has a place as an adjuvant therapy in selected cases after surgical

treatment in order to reduce the incidence of recurrence, especially after inadvertent intraoperative rupture of the cyst or the presence of disseminated intra-abdominal disease or in cases where surgery is contraindicated[4].

Patients with splenic hydatid cysts frequently present challenging therapeutic problems. Treatment of splenic hydatidosis is mainly surgical, although there is considerable controversy as to the best type of surgical approach. Cyst enucleation, deroofing of the cyst with omentoplasty or external drainage, may be applied when the cysts are infected or their locations and size do not allow their safe resection. Partial splenectomy with omentoplasty may be reserved for cases with unresectable cysts tightly adherent to adjacent structures and is considered a risky operation because it is difficult to have vascular control when incising the splenic tissue. Unroofing the cyst wall leaves behind a residual cavity, this carries the risk of postoperative infection.

Total splenectomy should be the method of choice and is considered the gold standard for hydatid spleen. Splenectomy however is associated with sepsis. Laparoscopic or laparoscopically assisted total splenectomy has also been successfully advocated for echinococcal disease of the spleen[5]. Nowadays laparoscopic anterior splenectomy has been done in some centres.

Approach to splenic hydatid laparoscopically has the risk of anaphylactic shock and intraperitoneal dissemination, which can occur subsequent to uncontrolled puncturing of the cyst. PAIR (Puncture, aspiration, injection, reaspiration) is the only method that is diagnostic as well as therapeutic; providing a direct diagnosis of the parasitic nature of the cyst PAIR under ultrasonographic or computed tomography guidance is advocated in splenic hydatid cysts but is contraindicated in non-cooperative patients and inactive or calcified lesion which was present in our patient. Risks of anaphylactic shock and spillage of the fluid may be rarely seen with PAIR.

CONCLUSION

Primary hydatid of spleen is rare and a non specific manifestation which makes diagnosis difficult. A clinical suspicion with occupational history complemented with serology and radiological investigations is required for diagnosing hydatid spleen in endemic areas.

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