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Primary Mesentric Hydatid Cyst – A Case Report

ABSTRACT

Hydatid disease is caused by a parasite known as *Echinococcus granulosus*. Most common sites are the liver and lungs. In this article, the author presents a rare case report of a primary mesenteric hydatid cyst-treated laparoscopically. The patient presented to us with a very short duration of history and non-specific complaints. As the pre-operative investigations were not very conclusive of the diagnosis, we made some differential diagnosis and decided to go ahead with the surgery.

Key words: Hydatid cyst, Laparoscopy, Echinococcus

INTRODUCTION

Hydatid disease has a world-wide distribution. It is endemic in the Mediterranean and Baltic areas, Middle and Far East, South America, and South Africa. Sheep-rearing European regions and central North America are also affected. It is a zoonotic infection caused by the tapeworm *Echinococcus granulosus*. Primary echinococcosis can involve any organ, though liver and lungs are the most common organs involved in hydatid disease.[1-8] Primary mesenteric hydatid cyst is very rare.[1] Mesenteric primary hydatid cyst is an unusual site.[2] A solitary cyst in the pelvic cavity is considered as primary when no other cysts are present.[3] Majority of the times mesenteric hydatid disease are secondary to the spontaneous or iatrogenic rupture of liver or splenic cyst.[2] In such cases, hydatid embryo gains access to pelvis by hematogenous or lymphatic route.[3] The patients usually presents with non-specific symptoms due to traction on mesentery or pressure effect on adjacent organs.[4] Among the reported cases in the literature, the most common presenting symptom has been chronic abdominal pain and the method of the primary diagnosis has been ultrasound (USG) and enzyme-linked immunosorbent assay (ELISA).[5]

CASE REPORT

We report an unusual case of the primary mesenteric hydatid cyst – a 44 year old female, para two live two presented to us with a history of palpable abdominal lump since 14 days, 2–3 episodes of pain while lying down in prone position. The pain was dull in nature. There were no associated complaints of nausea, vomiting, fever, or any disturbance in bowel and bladder habits. The patient is a strict vegetarian by diet. Her menstrual cycles were regular. The patient's medical history and family history were unremarkable. On physical examination, vitals were stable. On abdominal examination, palpable abdominal lump approximately 18 weeks size felt. On per speculum examination, cervix and vagina were healthy. Per vaginam examination revealed normal size anteverted uterus and bilateral fornices free. On rectal examination, there was no nodularity in pouch of Douglas and rectal mucosa was free. Routine hematological and biochemical parameters were normal. On USG, uterus and bilateral ovaries were normal. A cystic lesion of size 11 × 10.2 cm seen in the right adnexa and suprapubic region reaching up to periumblical area. The lesion showed thin walls measuring approximately 2.8 mm in thickness. No solid components seen inside the cyst. No internal or peripheral vascularity is seen on Doppler [Figure 1b]. Magnetic resonance imaging was done which showed a thick well-defined cystic lesion of size 11 × 11 × 9.5 cm in midline umbilical region suggestive of mesenteric cyst displacing adjacent bowel loops and indenting fundus of uterus and dome of urinary bladder without infiltration. Mild cyst wall enhancement without enhancing mural nodule, thick septations, or soft-tissue components seen Bilateral ovaries were normal. Initial differential diagnosis was – (1) adnexal cyst and (2) mesenteric cyst. In view of discrepancy between USG and computed tomography (CT) scan report, colorectal surgeon was involved. Laparoscopic cystectomy was planned and anesthesia fitness was taken.

A 10 mm umbilical port taken. Two accessory 5 mm ports taken.Intra operative findings - uterus with bilateral fallopian

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tubes and ovaries were normal. A cyst ~ 18 cm in size is seen arising from rectosigmoid epiploicae, deriving blood supply from mesentery [Figure 1c]. Clear fluid drained from cyst without any spillage. Gelatinous material presents inside the cyst and sent for histopathological examination (HPE). Base of cyst coagulated and cut. Cyst wall excised and sent for HPE [Figure 1d]. There were no similar cystic masses seen in any other abdominal viscera. Few yellow and white colored patches seen over the peritoneum, peritoneal biopsy taken and sent for HPE [Figure 1a]. Histopathology report showed numerous scolioses and hooklets which confirmed the diagnosis of hydatid cyst. Granulomas and eosinophilic infiltrate not seen. Peritoneal biopsy showed benign fibroadipose tissue and a fragment of lamellate membrane of hydatid cyst.

The post-operative course was uneventful. On taking history retrospectively, we found infection was accidentally acquired in our patient as there was no history of pets or visit to an endemic area. Postoperatively, the patient was given Albendazole for 1 month. Repeat USG done after 3 month showed no cyst collection.

DISCUSSION

Hydatid disease most commonly caused by *E. granulosus* is a common parasitic infestation seen in societies, in which agriculture and raising animals are common. Dogs and other carnivores are definitive hosts, whereas sheep and ruminant are intermediate host. Humans are accidental intermediate hosts infected by ingestion of food contaminated with eggs shed by dogs and foxes and are common in rural areas. Hydatidosis affects human beings without predilection for age and sex. The most important site is liver (70 %), lung (15%), kidney (3%), spleen (4%), cerebrum (2%), and heart (0.02–2%).[6] Primary peritoneal echinococcus is very rare and has been reported to occur in 2% of all abdominal hydatid disease. The correct pre-operative diagnosis is difficult due to its rarity, lack of specific symptoms, diverse imaging appearances, and striking resemblance between hydatid disease and malignant disease of related organ.[7] Serology and imaging are the main tools for establishing diagnosis. USG is the preferred first-line imaging, but contrast-enhanced CT gives more precise information regarding morphology (size, location, state of surrounding structures, and number) of cyst.[3] Complement fixation test is positive in approximately 65%, and indirect hem agglutination test and ELISA have approximately 85% sensitivity.[1]

The treatment of hydatid cysts is well established by the WHO: an anthelmintic treatment (Albendazol), pre- and postoperatively combined with surgery, which remains the mainstay treatment, although it has to be as conservative as possible for the healthy parenchyma.[8] Surgical procedures may be conservative or radical. Conservative procedures aim at sterilization and evacuation of cyst content, including the hydatid membrane (hydatidectomy), and partial removal of the cyst. Radical procedures aim at complete removal of the

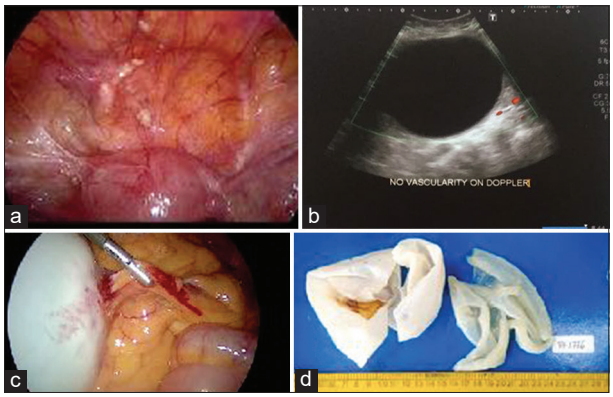

Figure 1: (a)Yellow and white colored patches seen over the peritoneum (b) Ultrasound showing well-defined cystic lesion with absent vascularity on Doppler. (c) Cyst seen deriving blood supply from mesentery (d) gross appearance of mesenteric cyst sent for histopathology

cyst with or without hepatic resection. Radical procedures bear greater intraoperative risks, with less post-operative complications and relapses.[9] The gold standard treatment for hydatid disease is complete surgical excision though according to the site of origin, partial or subtotal cystectomy can be performed to avoid adjacent organ injuries.[10] Drug treatment with albendazole is generally not used as a primary treatment except in cases, where the patient is not fit for surgery or the cyst size is smaller and deeply located.[3]

In our case, complete resection of cyst wall was done laparoscopically without any spillage. Combination of pre-operative albendazole therapy, surgery, and post-operative albendazole therapy is a useful regime. Albendazole suppresses the development of hydatid cysts following intraperitoneal inoculation of protoscolioses.

CONCLUSION

Primary mesenteric cyst is a rare entity. Usually, it is asymptomatic and sometimes can also present as an acute abdomen due to rupture causing intraperitoneal spillage and can be considered as one of the differential diagnosis of acute abdomen or mass per abdomen. The treatment is surgical excision of cyst with peri- and post-operative anti parasitic medical therapy.

CLINICAL SIGNIFICANCE

Recurrence rates are less in cases, where radical cystectomy is performed. In cases, where non-radical treatment is performed due to extensive disease, pre-operative, and post-operative chemotherapy and a very close follow is required.

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