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Case Report

Obstetrics and Gynaecology Section

Primary Peritoneal Hydatid Cyst Presenting as Ovarian Cyst Torsion: A Rare Case Report

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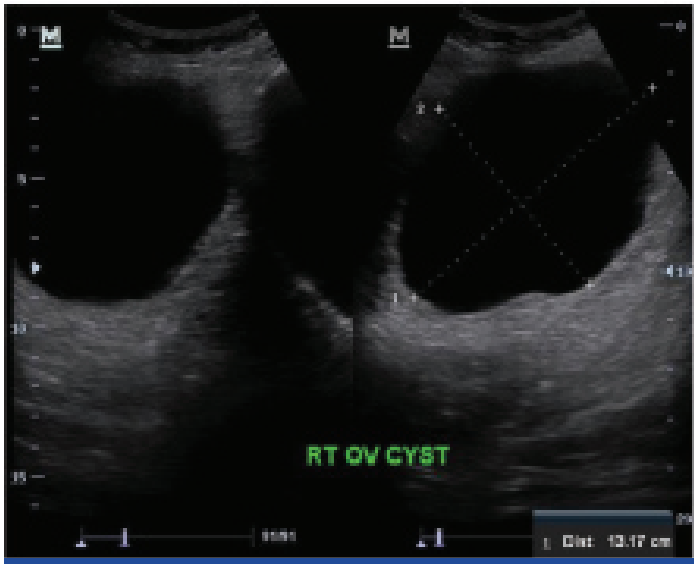
ABSTRACT

Hydatid cyst disease is a zoonotic disease caused by *Echinococcus granulosus, E.multilocularis or E.Vogli*. The most common primary site is liver (75%) followed by lungs (5-15%) and other organs constitute 10-20%. Peritoneal hydatid cysts are very rare especially primary peritoneal hydatid. Secondary peritoneal hydatid cysts are relatively common, which usually occurs due to rupture of primary hepatic hydatid cyst. We present a rare case of large primary peritoneal hydatid cyst misdiagnosed as torsion of ovarian cyst that underwent Laparotomy with cyst excision and postoperative Albendazole therapy.

Keywords: Echinococcosis, PAIR, Percutaneous thermal ablation

CASE REPORT

A 37-year-old parous woman presented to our OBG casuality with severe lower abdominal pain since 12 hours and on and off pain abdomen since 3 months with no significant past medical or surgical illness. On examination patient was moderately built and nourished, pulse rate was 110beats/min and BP was 100/60mmHg. Abdominal examination revealed a cystic mass of about 13 x 10cm with well defined margins and tenderness all over the lower abdomen. On vaginal examination cervix and vagina were healthy; uterus was retroverted, normal size with fullness in the anterior fornix. Routine blood investigations and CA-125 were within normal limits. Ultrasound abdomen and pelvis suggested torsion of right ovarian unilocular clear cyst of size 13 × 9.5cm with no internal septations [Table/Fig-1]. Other abdominal and pelvic organs were normal on USG. A diagnosis of right ovarian cyst torsion was made and the patient was posted for emergency Laparoscopic ovarian cystectomy.



[Table/Fig-1]: USG abdomen and pelvis showing the intra-abdominal unilocular clear cyst

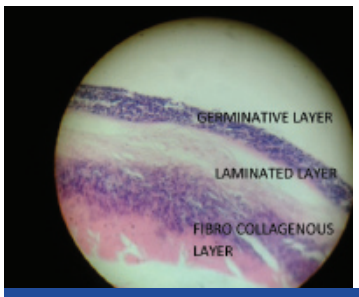
[Table/Fig-2]: Laparoscopic view of the peritoneal hydatid cyst **[Table/Fig-3]:** Cut section of the peritoneal cyst with the inner germinative layer

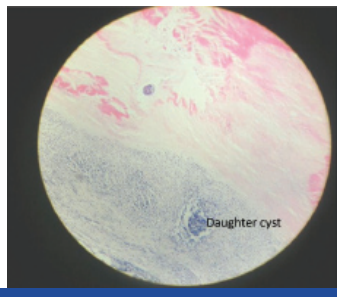
Huge cystic lesion of size 13 x10cm filling the entire lower abdomen obscuring the view of pelvis was noted at laparoscopy [Table/Fig-2]. The dense omental adhesions were released by sharp dissection and controlled decompression of the cyst was done for better visualization, around 500ml of clear fluid was drained. After decompression of the cyst, the pelvic organs (both the ovaries, uterus, tubes) were found to be normal and the cyst was seen to be arising from the sigmoid mesocolon, other abdominal organs (liver, spleen) appeared normal. With the suspicion of mesenteric cyst the Surgeon was called over and the procedure was converted to laparotomy. The cyst was seen arising from the sigmoid mesocolon. The ovaries, tubes and uterus were normal as mentioned in the previous line. The cyst was unilocular filled with mucinous fluid [Table/Fig-3]. Adhesiolysis with complete removal of cyst was done. Abdomen was closed after through irrigation and suctioning of the peritoneal cavity with warm normal saline. An intraperitoneal drain was placed.

Histopathology confirmed the diagnosis of Hydatid cyst with the cyst wall showing an inner germinative layer, an avascular laminated membrane, an outer fibrocollagenous layer and adipose tissue with chronic inflammatory cell infiltrate [Table/Fig-4]. Multiple daughter cysts were seen in the cavity [Table/Fig-5]. Postoperatively a diagnosis of primary peritoneal hydatid cyst was made. Postoperatively patient was started on oral albendazole 800mg /day in divided doses. Patient had an uneventful postoperative period. Patient was advised to continue tablet Albendazole for 3 months and come for follow up after a month. At follow-up after a month patient was asymptomatic and her review ultrasound abdomen and pelvis was normal.

DISCUSSION

Hydatid cyst disease is a zoonotic disease which can involve any abdominal organ. Hydatid cyst in humans is usually caused by





[Table/Fig-4]: Microscopic Image (4*100x) of Hydatid Cyst Showing the 3 Layers of the Cyst **[Table/Fig-5]:** H&E Staining of Hydatid Cyst Showing Daughter Cyst in 10*100x Resolution

the larval stage of *Echinococcus granulosus*. Its life cycle passes through two definitive hosts (dogs and carnivores), humans become an accidental intermediate host. Peritoneal hydatidosis occurs in 2% of abdominal hydatid [1]. The most common presentation of peritoneal hydatid cyst is chronic abdominal pain, unless there are complications in the cyst. The common complications are hydatid peritonitis and systemic anaphylaxis due to cyst rupture, infection of cyst and compression of adjacent organs. Hydatid cyst at unusual body sites heart, orbit, brain, muscle, salivary gland, bone, urinary tract and pancreas are reported [2]. The incubation period for all species of *Echinococcus* can be months to years or even decades [3]. Hydatid disease in human can present in three forms, cystic echinococcosis (unilocular echinococcosis), alveolar echinococcosis and polycystic echinococcosis. In human beings hydatid disease most commonly presents as cystic disease. The cysts are spherical and unilocular, filled with clear fluid called hydatid fluid [4,5]. The symptoms and signs that occur depend on the location of the cyst and its size. Imaging is the main method that is relied on for diagnosis, while serologic tests are used to complement the imaging results. Hydatid cysts are classified radiologically into 4 types on the basis of their appearances [6]. The imaging technique of choice for cystic echinococcosis is ultrasonography [7]. In addition to ultrasonography, both MRI and CT scans are often used, although an MRI is preferred to CT scans when diagnosing cystic echinococcosis since it gives better visualisation of liquid areas within the tissue [7]. Ultrasound is more specific for diagnosis of cystic echinococcosis [8]. Casoni test and indirect haem-agglutination test are the other diagnostic options available for hydatid disease [9].

The treatment of choice is a careful complete open surgical excision of cyst combined with chemotherapy using Albendazole and/or Mebendazole before and after surgery. If cysts are in multiple locations, or if the cysts are located at surgically inaccessible sites, PAIR (puncture–aspiration-injection–re-aspiration) and chemotherapy become alternative options of treatment [10]. Radiofrequency thermal ablation (RTA) of the germinal layer in the cyst is the newer treatment modality under research.

In our patient the exact origin of the cyst was not picked up by ultrasonography, as it was large and completely obscuring the pelvis. As the patient presented with acute pain abdomen and ultrasound suggested torsion of right ovarian cyst, CT scan of abdomen and pelvis was not done. In our patient the cyst was seen arising from sigmoid mesocolon, as no other primary source of hydatid disease was identified in the abdomen and both ovaries and uterus were normal, this cyst can be considered as primary peritoneal hydatid cyst.

CONCLUSION

When hydatid disease affects rare sites, the diagnosis is usually missed leading to acute complications. A high index of suspicion, radiological investigation as well as histopathological examination is necessary in establishing the diagnosis of hydatid disease at unusual locations.

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