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Case Report

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Bilateral Fallopian Tube Hydatid Disease Masquerading as Pelvic Malignancy: A Case Report with Review of Literature

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ABSTRACT

Echinococcosis is a zoonotic disease commonly known, as hydatid disease is endemic in India and mostly caused by Echinococcus granulosus. Hydatid cyst most commonly involves liver followed by lungs with a frequency of 60% and 20–30% respectively. Rarely, it can primarily involve pelvic organs in females such as uterus, ovaries, fallopian tubes etc. either separately or sometimes together, which may mimic malignancy and create diagnostic dilemma. Till date, around 30 case reports of primary fallopian tube hydatid disease are reported, however none of them mentioned bilateral involvement. Herein, we report a case of bilateral fallopian tubal hydatid disease in a 45-years-old female presented with a 4 months history of lower abdominal pain and abdominal distension with review of literature.

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Introduction

Hydatid disease is caused by ingestion of food particularly raw vegetables and water contaminated by echinococcus eggs through fecal-oral route [1, 2]. Human beings are accidental host while dogs and other carnivores serve as primary host and cattle, sheep, goat, camel etc. are intermediate hosts [3]. Hydatid cyst predominantly involves liver followed by lungs, but may be found in any part of the body including the brain, heart and bones and rarely female genital tract [4]. Hydatid cyst may proliferate to very large size forming a complex cystic mass with constellation of symptoms such as pelvic pain, dysmenorrhea etc. and masquerade ovarian malignancy. Clinical history, serologic tests, and radiological evaluation by ultrasonography and/or computed tomography can be useful for accurate diagnosis. However, doubtful cases may require diagnostic laparoscopic examination.

Case Report

A 45-years-old postmenopausal patient presented to our outpatient clinic with a history of lower abdominal pain and abdominal distension since 4 months. Abdominal ultrasonography showed a large anechoic poorly defined abdomino-pelvic cystic mass lesion measuring 18x16x12cm, posterior to the uterus, displacing it anteriorly and bowel loops peripherally with low-level internal echoes. The mass showed variable sized multiple well defined anechoic cysts, echogenic rounded whorl appearance and thick linear content within it. A possibility of adnexal mass/peritoneal inclusion cyst with advice to perform contrast enhanced computed tomography (CECT) for confirmation was given. CECT whole abdomen revealed a well defined hypodense cystic lesion with no obvious post contrast enhancement in pelvis and lower abdominal cavity predominantly occupying pouch of Douglas with multiple variable sized hypodense cystic lesion and thick band like structure within cystic lumen measuring 18x19x12cm (figure 1). The findings were suggestive of hydatid cyst and less likely peritoneal inclusion cyst and ovarian cyst. Echinococcus antibody IgG test was also done to confirm the findings and it was positive with test value 0.906.

Patient underwent laparoscopic laparotomy where hydatid cyst was identified during the surgery, aspiration of cystic fluid along with peri cystectomy, abdominal hysterectomy with bilateral salpingo-oopherectomy was performed. The whole specimen was sent for histopathological examination. Patient is symptom free at 10 months of follow-up.

Pathological Findings

The specimen measured 18x15x8cm with cyst wall measuring 15x10cm (figure 2A). Cyst was covering both fallopian tubes with opening of tubes inside the cyst, ovaries were not identified. Uterus and cervix were unremarkable.

On microscopic examination both the fallopian tubes showed marked dilatation of the lumen with multiple fragmented lamellar membranes of hydatid and dense chronic inflammatory cell reaction in the wall (figure 2B, 2C). No brood capsule, protoscoleces and hooklets found. Endomyometrium showed chronic inflammatory cell infiltrate along with fibrosis over the peritoneal surface. Microscopic examination of the cyst fluid also revealed laminated hyaline membrane.

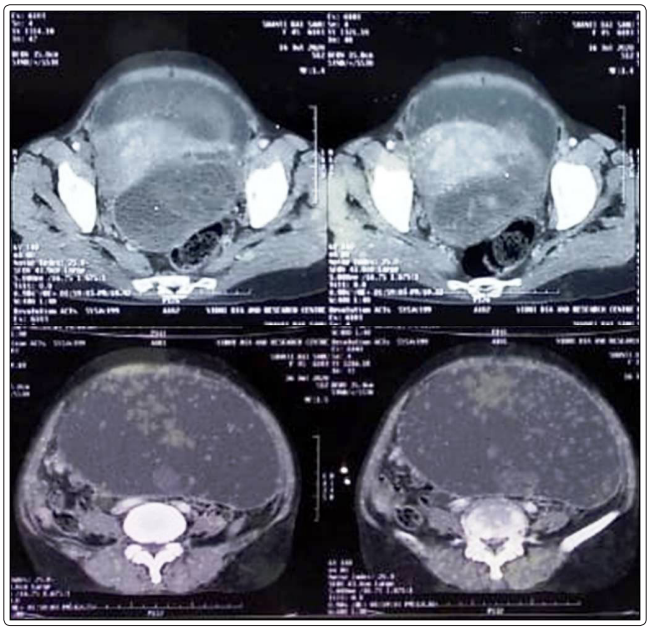

Figure 1: CECT whole abdomen showing a well-defined hypo dense cystic lesion without contrast enhancement in pelvis and lower abdominal cavity predominantly occupying pouch of Douglas with multiple variable sized hypodense cystic lesion and thick band like structure within cystic lumen measuring 18x19x12cm.

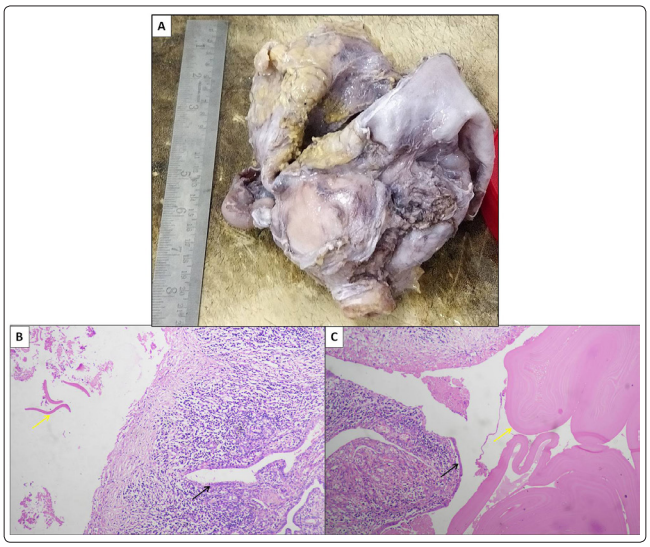

Figure 2: (A) gross specimen showing a cyst wall measuring 18x15x8cm with opening of bilateral fallopian tubes inside the cyst, figure 2B and 2C showing lamellate membranes (yellow arrow) of the hydatid cyst inside the fallopian tubes with dense chronic inflammatory reaction in the wall of tubes, black arrows showing tubal lining epithelium (HE x100).

Discussion

Hydatid disease is endemic in the Middle East countries and the Mediterranean region. It most commonly involves liver followed by lungs, however can involve any part of the body. The pelvic organ involvement is very rare with a reported frequency of 0.3% to 4.27 % [5]. Till date, around 30 case reports of primary fallopian tube hydatid disease are reported, but none of them mentioned bilateral involvement.[5] In present case, bilateral fallopian tube involvement was present. However, on CECT scan, an additional splenic cystic lesion was also noted with radiological features similar to pelvic disease. Hence, whether pelvic involvement was primary or secondary cannot be clearly commented. No other organs involvement such as liver and lungs was seen. Considering rare involvement of pelvic organs by hydatid disease, multiple differentials such as ovarian cystic tumors, ectopic pregnancy, para-ovarian cyst, peritoneal cyst, pelvic inflammatory disease, and pelvic abscess comes into play and results in very difficult accurate pre-operative diagnosis [6]. A pre-operative diagnosis is very important to prevent spillage of cystic content during surgical resection and avoid any anaphylactic reaction and recurrence. Moreover, in selective cases puncture-aspiration-injection-reaspiration (PAIR) technique can be used as therapeutic option. Serologic test is helpful but it has low sensitivity and specificity. In present case, echinococcosis antibody IgG test was positive. Different imaging modalities such as ultrasound, CECT and magnetic resonance imaging play a crucial role in preoperative diagnosis [7]. Sometimes, a diagnostic laparoscopic examination may be required for confirmation of the diagnosis. The complete blood counts are relatively normal in the majority of patients; however, in case of superadded infections the total leucocyte counts may be elevated. The eosinophil count may be elevated in patients with allergic reaction to the parasite [8].

Primary fallopian tubal hydatid cyst produces non-specific compressive symptoms similar to other cystic adnexal tumors. In our case, patient presented with abdominal pain and distension. Surgical resection is the treatment of choice. However, PAIR can be used in selective cases such as infected cysts, pregnant women, patients with relapse and patients in whom surgery is contraindicated. Surgical skills are very important to ensure no spillage of cyst contents to prevent possibilities of recurrence or anaphylaxis. Further, contamination during surgery can be avoided, using fields soaked with protoscolicide solution (95 % ethanol solution or hypertonic saline) in order to prevent recurrence and anaphylaxis [5]. Albendazole is a safe antihelminthic drug which can be used as effective adjuvant chemotherapy to minimize recurrence after surgery.

Follow up should be essentially recommended for any subsequent recurrences and early detection of other organs involvement [9].

To conclude, primary pelvic hydatid disease is a rare condition, involvement of bilateral fallopian tubes is even rarer, a high degree of suspicion particularly in endemic regions with appropriate radiological and serological investigation is essential for a pre-operative diagnosis. PAIR and surgical resection are best available treatment options which should be personalized based on the clinical scenario.

Ethical Adherence

The present work was performed after taking informed consent from the patient and a sincere effort has been made to uphold patient confidentiality.

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