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An Unusual Cystic Lesion in Ovary

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ABSTRACT

Introduction: Hydatid disease is a zoonosis caused by the larval stages or the adult of tapeworm Echinococcus granulosus or less commonly Echinococcus multilocularis. It is prevalent in the areas where livestock is raised in association with the dogs. Humans are accidental intermediate host. Primary ovarian hydatid cyst is extremely rare and often mistaken as cystic tumors of the ovary.

Case report: We present a rare case of a 38 years old woman who presented with intermittent dull aching pain in the lower abdomen since 6 months. Ultrasonography of whole abdomen revealed the evidence of a left adnexal cystic lesion. Exploratory laparotomy was performed and a left ovarian cystic mass was identified. The cyst was removed intact. Histopathological examination confirmed it to be a hydatid cyst.

Conclusion: Removal and proper treatment of the infected animals, interrupting the cycle of transmission of hydatid cyst, help to eliminate the disease. The implementation of public awareness of the disease and proper sanitation are needed to prevent this disease. Primary ovarian hydatid cyst is rare and requires proper intraoperative management to avoid spillage and thereby recurrences. Then the patients are treated with anthelmintics.

Keywords: Echinococcosis, Hydatidosis, Echinococcus granulosus, Echinococcus multilocularis, hydatid cyst, laparotomy, ovary, surgery

INTRODUCTION

Hydatid disease is a zoonotic disease caused by the larval or the adult stages of tapeworm Echinococcus granulosus or less commonly Echinococcus multilocularis[1]. The worm resides in the intestines of the dogs, which are definitive hosts. Intermediate hosts are the herbivores like sheep and cattle which get infected following ingestion of the eggs of these tapeworms which are passed outside in the faeces of carnivores. Humans are accidental intermediate hosts[2]. Following primary infection, hydatid cyst can inhabit in any anatomical location throughout the body[3].

Liver is the most frequently affected organ (59%-75%) followed by lungs (27%), muscles, bones, brain, kidney, spleen are uncommon sites involved by hydatid disease [4]. Primary localisation of hydatid cyst in pelvis is a rare diagnosis, the incidence is 0.2%- 2.25%[5].

Primary ovarian hydatid cyst is an extremely rare entity which may remain asymptomatic and detected accidentally. Ovarian hydatid cyst is usually secondary It is often misdiagnosed as benign or malignant cystic neoplasm of ovary[6].

We are presenting an extremely rare case of primary left ovarian hydatid cyst which was confirmed on histopathological examination and after exclusion of involvement of any other anatomical site by hydatid cyst.

CASE REPORT

A 38-year-old female patient, mother of 2 children, presented with intermittent dull aching pain in the lower abdomen since 6 months. The pain was not associated with fever or vomiting and it did not interfere with the patient's daily activities. There was no alteration of the bladder or bowel habits. Her menstrual cycles were normal and there was no recent history of weight loss. No significant past medical or surgical histories. On examination there was mild tenderness in the lower abdomen, no palpable organs or mass found.

Ultrasonography (USG) of whole abdomen showed evidence of a left adnexal unilocular cystic lesion measuring 8.5x7x5cm. The liver, spleen and kidneys showed normal echo pattern, no free fluid was detected within the abdomen Tumor markers (AFP, CEA, CA-125) were within normal limits. Her CBC and routine blood biochemistry were within normal limits. The patient was planned for exploratory laparotomy.

It revealed presence of left ovarian cyst. The cyst was removed intact and was sent to the department of Pathology for histopathological examination. We received an intact smooth walled spherical cyst measuring 10x7x6cm. On cutting open the cyst appeared unilocular and it was filled with straw coloured fluid, whitish granular and cystic structures were present in the wall (Fig. 1&2).

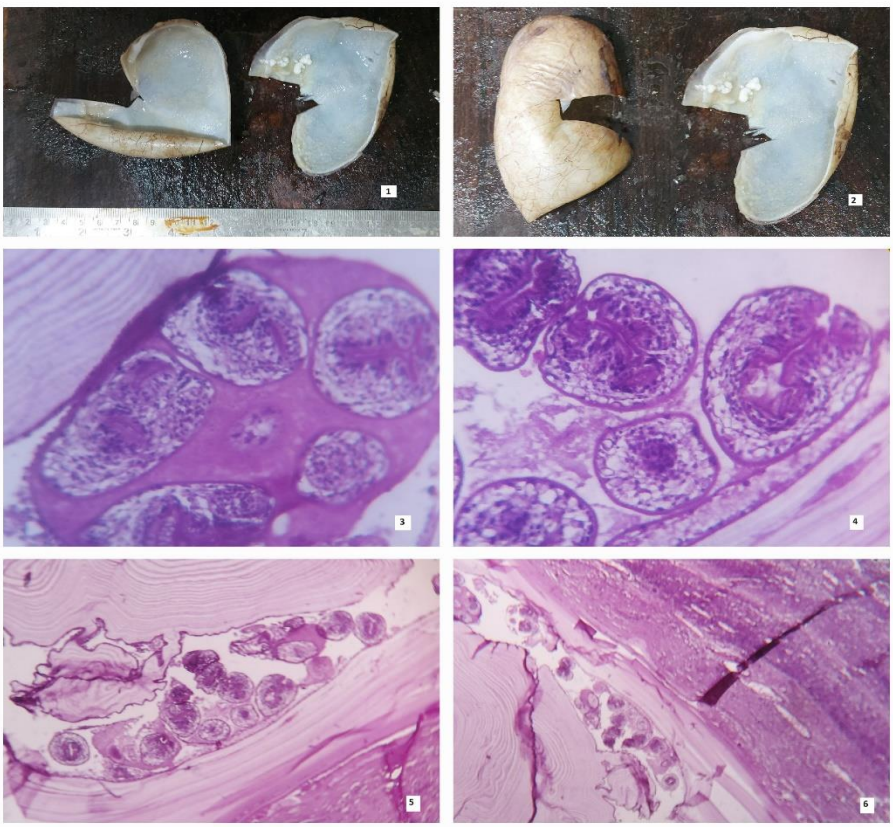

Figure 1 & 2: Cut open Hydatid cyst of ovary with daughter cysts.
Figure 3 & 4: H&E(400X) of Hydatid cyst of ovary showing daughter cysts with protoscoloces
Figure 5: H&E(100X) of Hydatid cyst of ovary showing acellular laminated membrane and protoscolices
Figure 6: HPE (40X) of Hydatid cyst of ovary showing acellular laminated membrane and protoscolices

Histopathological examination (HPE) confirmed the diagnosis of hydatid cyst of ovary. It revealed different areas of cyst wall showing an outer acellular laminated membrane, germinal membrane a transparent nucleated lining, protoscolices (ovoid structures containing hooklets and suckers) attached to the membrane and budding from it. (Fig. 3, 4,5,6). Anthelmintic drugs were prescribed for 3 months to the patient following the diagnosis of hydatid cyst of ovary. The patient was followed up for 1 year with USG whole abdomen, CT scan thorax, CT scan brain, LFT. There was no evidence of recurrence.

DISCUSSION

Hydatid disease or Echinococcosis is widespread in places where livestock is raised in alliance with the dogs. It is commonly found in Mediterranean region, New zealand, Australia, Africa, Italy, Chile and Middle east[6]. Hydatid disease rarely involves ovary as primary target organ. The diagnostic challenge is due to nonspecific symptoms, sometimes with atypical USG findings. Owing to the patient's clinical history and USG findings, this case of Primary ovarian hydatidosis was clinically diagnosed to be a cystic neoplasm of left ovary. Symptoms may be due to increased size of the cyst, cyst rupture or ovarian torsion[6]. In our case the patient presented with only intermittent dull aching pain in the lower abdomen.

Hydatid cysts have three layers- pericyst, germinal layer and acellular laminated membrane. Pericyst is thick in case of hydatid cyst of liver, spleen but extremely thin in case of pelvic hydatid cysts[7]. As ovarian hydatid cysts have thin pericyst, the cyst can be dissected and excised completely along with pericyst[7]. In our case also the pericyst was very thin and the cystectomy was done very carefully.

Diagnosis of this disease can be made from history, Clinical suspicion and radiological imaging. USG is very helpful and it is highly sensitive and specific. CT and MRI Imaging techniques are also useful. Radiology is more helpful than serological and antigen specific tests[4,8]. In our patient USG was done which showed unilocular cyst and no serological tests were done as it was thought to be a cystic neoplasm of ovary.

The treatment of choice for primary ovarian hydatid cyst is surgery. Ovarian cystectomy, if possible, represents gold standard treatment. The aim of surgery is to remove the cyst without any spillage [7]. Spillage of cyst fluid increases the risk of recurrence[9]. In our case exploratory laparotomy was done followed by complete ovarian cystectomy without any rupture. The specimen was sent to the department of Pathology as intact left ovarian cyst. After diagnosis anthelmintic drugs are indicated after surgery to reduce the rate of recurrence, in a confirmed case of hydatid cyst[6-9]. Our patient got anthelmintic treatment after surgery.

The differential diagnosis includes all cystic lesions including benign and malignant ovarian neoplasm and multicystic ovaries[6].

Hydatid cyst fluid contents are highly immunogenic hence cyst rupture and spillage of cyst contents can result in life threatening anaphylactic reaction[5,8]. No such complication arised in our case.

CONCLUSION

Hydatid disease is a significant public health problem in the endemic areas. Proper treatment is necessary for the infected animals and interruption of the cycle of transmission of hydatid cyst, will help to eliminate the disease. Public awareness of this disease and maintenance of proper sanitation is necessary to prevent the infection. Primary Ovarian hydatid cyst is rare and requires proper intraoperative management to avoid spillage and thereby recurrences. Ovarian hydatid cyst is often misdiagnosed as an ovarian cystic tumor. It may be asymptomatic or present as an emergency. Surgical management involves the excision of the cyst. It can be done by

open or laparoscopic techniques. Anthelmintic drugs are required after surgery to reduce the rate of recurrence.

Declaration by Authors

Consent: Written informed consent was obtained from the patient for publication of this case report and accompanying images.

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