

Hydatid cyst of the ovary – a very rare type of cystic ovarian lesion: A case report

Ayad Ahmad Mohammed ^{*,1}, Sardar Hassan Arif ¹

Department of Surgery, College of Medicine, University of Duhok, Kurdistan Region, Iraq

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ABSTRACT

Background: Hydatid disease is a zoonotic condition caused by the adult or the larval stages of tapeworms belonging to the species *Echinococcus granulosus* or less commonly *Echinococcus multilocularis*. The presentation depends on the site of involvement. Many cases are not symptomatic and may be discovered accidentally. Hydatid cyst of the ovary is an extremely rare presentation and accounts for 0.2–1% of the diagnosed cases. It may be mistaken for ovarian cysts or cystic tumors of the ovary.

Case Presentation: An 18-year-old woman complained of episodes of lower abdominal pain and frequent urination for the last 3 months. During abdominal examination, there was deep tenderness in the supra-pubic region with no palpable organs or masses. Ultrasound of the abdomen showed evidence of cystic left adnexal lesions. A computerized tomography scan of the abdomen revealed evidence of cystic left adnexal lesion with no enhancement after contrast injection. Laparoscopy was performed and there was evidence of a hydatid cyst of the left ovary. The cyst was extracted from the cavity using a retrieval bag. Anthelmintic medications were prescribed for 3 months, and follow-up ultrasound after 6 months was normal.

Conclusion: A high index of suspicion is required for the diagnosis, particularly in the presence of any cystic lesion, in any part of the world. The enzyme-linked immunosorbent assay test may be informative in the active stages of the disease. Laparoscopic management involves cyst excision. Anthelmintic drugs are required after surgery to decrease the recurrence rate.

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1. Introduction

Hydatid disease is a zoonotic condition caused by the adult or the larval stages of tapeworms belonging to the species *Echinococcus granulosus* or less commonly *Echinococcus multilocularis*. The worm is present in the intestines of the carnivores like dogs. Eggs of the parasite are passed outside in the feces of carnivores and then ingested by herbivores (intermediate hosts) like sheep and cattle. The larvae of the parasite then pass from the intestine of the herbivores through the blood vessels to all parts of the body. The most common destination of the larvae is the liver, via the portal venous system, but other organs may be affected less frequently. People can be accidental intermediate hosts [1].

The presentation depends on the site of involvement. Many cases are not symptomatic and may be discovered accidentally. Pain is the most common presentation, and some patients may present with signs of infection when the cyst become infected. Hydatid cyst of the ovary is an extremely rare presentation and accounts for only 0.2–1% of the

diagnosed cases. The condition is misdiagnosed in the majority of cases. It may be mistaken for ovarian cysts or cystic tumors of the ovary and the symptoms are usually nonspecific [1,2].

The diagnosis is mostly radiological, by computerized tomography (CT) scan or magnetic resonance imaging (MRI); ultrasound is very informative in locating the site and size, but more advanced imaging will show more details of the anatomy and the presence of multiple cysts in other parts of the body. This is of particular importance before surgery to exclude pulmonary or intracranial lesions. An enzyme-linked immunosorbent assay (ELISA) test may be very informative, especially in the active stages of the disease [3].

2. Case Presentation

An 18-year-old woman complained of episodes of lower abdominal pain and frequent urination for the last 3 months. The pain was poorly localized and did not interfere with the patient's daily activities. There was no pain radiation and no associated symptoms. The menstrual cycles were normal and the patient did not report any history of weight change.

The past medical and surgical histories were negative, and the family history was negative for chronic illnesses and genetic abnormalities.

* Corresponding author at: University of Duhok, College of Medicine Azadi Teaching Hospital, 8 Nakhoshkhana Road, 1014 AM, Duhok City, Duhok, Iraq.

E-mail address: ayad.mohammed@uod.ac (A.A. Mohammed).

¹ Work address: 8 Nakhoshkhana Road, 1014 AM, Duhok City, DUHOK, Iraq.

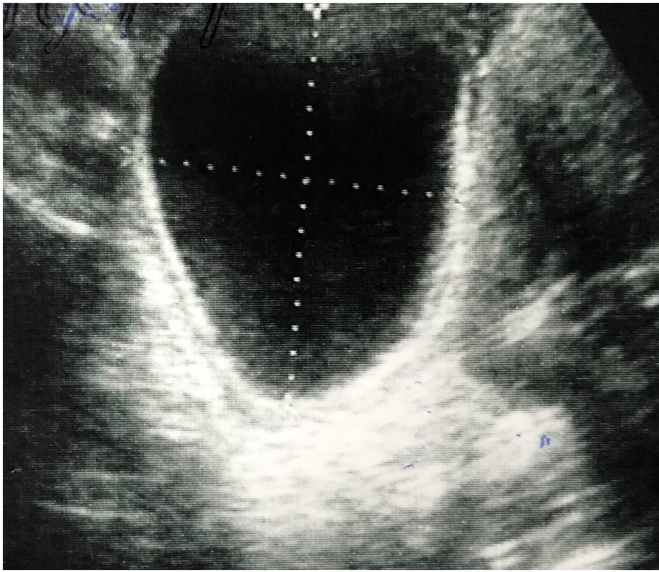


Fig. 1. An ultrasound scan showing the cystic lesion with clear contents in the left ovary.

The general urine examination was normal, the hemoglobin level was normal, and the renal function test was normal.

During examination, the patient was not pale or jaundiced, and her vital signs were normal. During abdominal examination, there was deep tenderness in the supra-pubic region with no palpable organs or masses.

Ultrasound of the abdomen showed evidence of a cystic left adnexal lesion measuring 56 mm by 39 mm which was uni-vesicular and contained fluid (Fig. 1). A CT scan of the abdomen also revealed evidence of a cystic left adnexal lesion, with no enhancement after contrast injection (Fig. 2).

Laparoscopy was performed and there was evidence of a hydatid cyst of the left ovary; injection of chlorhexidine was done, then aspiration. The hydatid cyst was extracted from the cavity using a retrieval bag (Figs. 3 and 4).

The patient was admitted for 2 days after surgery. Anthelmintic medications were prescribed for 3 months, and follow-up ultrasound at 6 months was normal.

3. Discussion

Hydatid disease is prevalent in certain parts of the world, such as the Mediterranean region, eastern Europe, some parts of South America, the

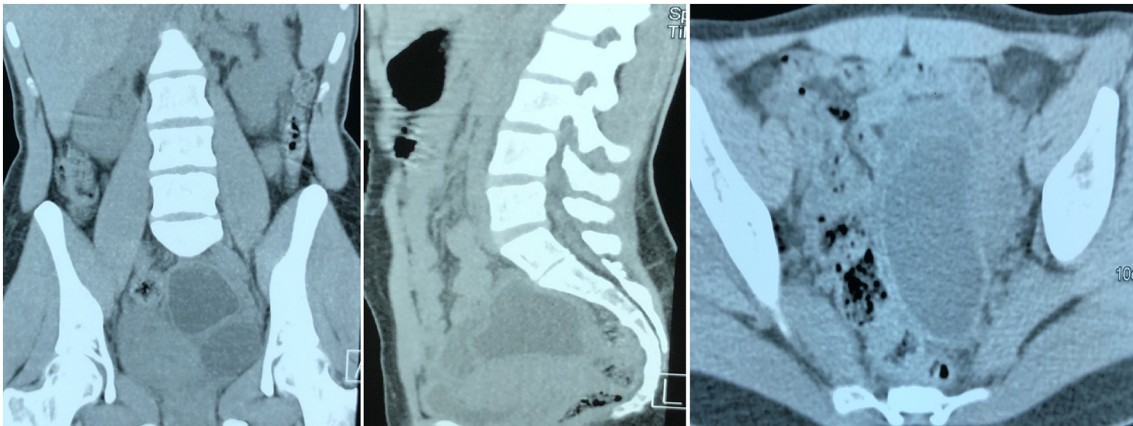


Fig. 2. A CT scan of the abdomen and pelvis showing bi-vesicular lesions with a clear cavity within the left ovary.

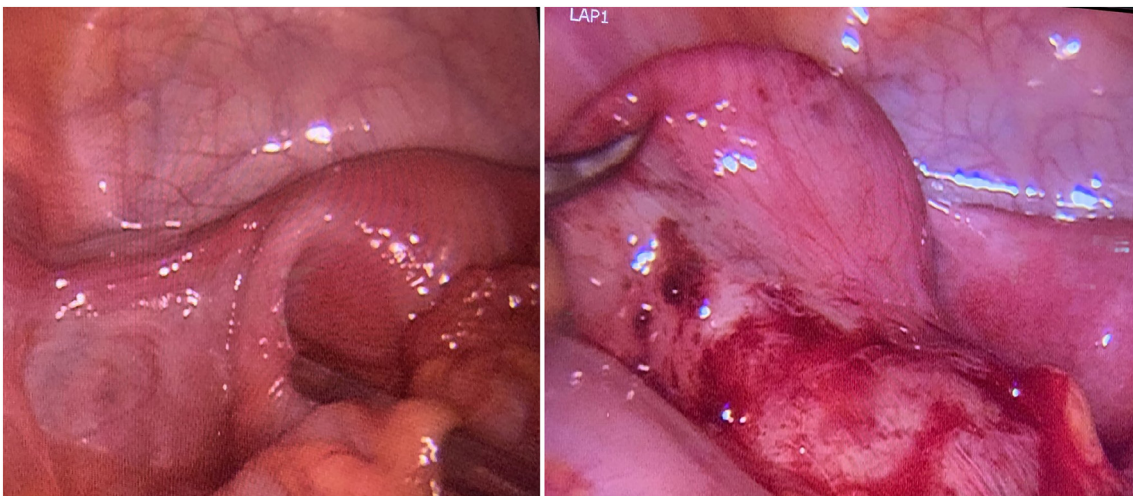


Fig. 3. An intraoperative laparoscopic picture showing the thick-walled cystic lesion within the left ovary.

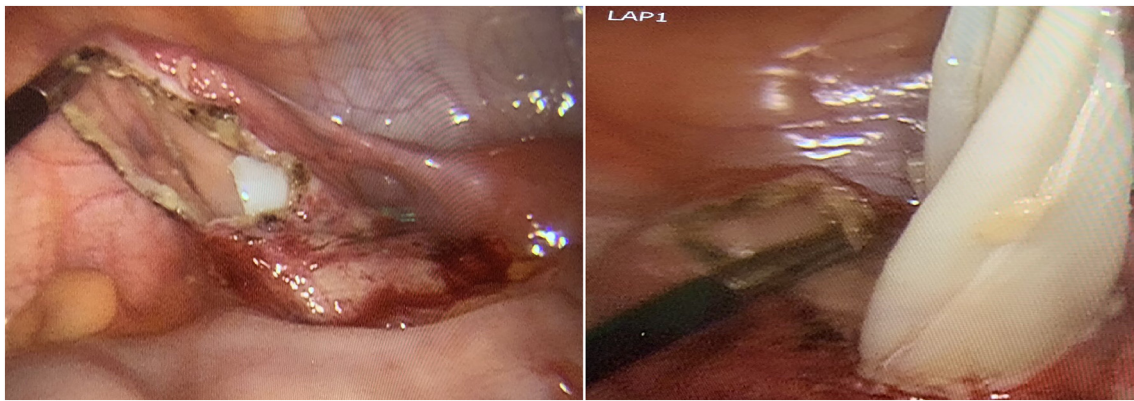


Fig. 4. An intraoperative laparoscopic picture showing the extraction of the hydatid cyst from the left ovary.

Middle East, East Africa, Australia, and New Zealand. The disease has long been reported in the literature, even from Hippocrates' times. It can affect any part of the body and can be a diagnostic challenge; a high index of suspicion is therefore required for its diagnosis, but in endemic regions it enters the differential diagnosis of any cystic lesion in any part of the body [2,4,5].

Pelvic organ involvement is very rare and many cases are diagnosed during surgery, as the cyst may remain non-symptomatic for a long time before its diagnosis. Symptoms may be due to increased size, when patients may present with pressure symptoms. Rupture of the cyst can present as acute abdominal pain. The affected ovary may be liable to torsion [2,6,7].

Some cases of hydatid cyst may present as an emergency, with features or allergic reactions in mild cases, while in some cases it may cause a life-threatening anaphylactic reaction. This occurs due to cyst rupture and spillage of the fluid contents which is very immunogenic [2,6].

Anthelmintic drugs may be used before surgery in selected cases, although the cure rate with drugs is not high. Drugs are also indicated after surgery to reduce the recurrence rate. During surgery, spillage must be avoided: this is most important, to reduce the recurrence rate. Other factors include the insertion of scolical agents inside the cyst before opening the cyst, and isolation of the surgical field with packs soaked in scolical agents [3,8].

Surgery can be done by the open or laparoscopic techniques; selection of patients for the most appropriate modality of treatment is very important. Uncomplicated cysts, cysts in accessible locations, and univesicular cysts are best managed by laparoscopic intervention. It is very important that involvement of the lung is excluded before any kind of surgical intervention; if lung cysts are diagnosed, they should be managed first [3,9].

4. Conclusion

Hydatid disease is common in certain parts of the world. A high index of suspicion is required for the diagnosis particularly in the presence of a cystic lesion in any part of the world. An ELISA test may be informative in the active stages of the disease. Hydatid cyst of the ovary is often misdiagnosed as an ovarian cyst or cystic tumor. It may be asymptomatic, or present as an emergency. Laparoscopic management involves cyst excision. Anthelmintic drugs are required after surgery to decrease the recurrence rate.

Contributors

Both authors contributed to the conception and design of the study, and drafting the article, and gave final approval of the version to be submitted.

Conflict of interest

The authors declare that they have no conflict of interest regarding the publication of this case report.

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Patient consent

Patient consent to the publication of the report and any accompanying images has been given.

Provenance and peer review

This case report was peer reviewed.

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