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Ovarian Hydatid Cyst: Case Report

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Abstract **Case Report**

Background*:** Hydatid disease is a zoonotic condition caused by the adult or the larval form of Echinococcus granulosus or less commonly Echinococcus multilocularis. The clinical 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 that accounts for 0.2–1% of the diagnosed cases. It may be mistaken for ovarian cysts or cystic tumors of the ovary. The diagnosis is often based on the couple ultrasound-hydatid serology, but only the histopathological study can confirm the diagnosis of ovary hydatid cyst. ***Case report: A 40-years-old woman (G4P4), consulting for lower abdominal pain and frequent urination for the last 3 months. The clinical examination was normal besides a discrete pain in the supra-pubic region. Ultrasound of the abdomen showed evidence of cystic mass on the left ovary. A computerized tomography scan of the abdomen revealed the same lesion with no enhancement after contrast injection. In laparotomy we found a latero-uterine cystic lesion measuring approximately 6,5x3,5x4,7 cm there was evidence of a hydatid cyst of the left ovary. The treatment consisted on aspiration with injection of chlorhexidine. The patient underwent a hysterectomy with salpingo-oophorectomy with simple postoperative course. The diagnosis of hydatid cyst was confirmed through histopathological examination. ***Conclusion***: The diagnosis of hydatic ovarian cyst is often based on the couple ultrasound-hydatid serology, but only the histopathological study can confirm the diagnosis The surgical treatment depends on the volume and location of the cysts. Hysterectomy remains the treatment of choice to avoid recurrences. Medical treatment is only necessary when the excision is incomplete or for multiple locations.

Keywords: Hydatid disease, Echinococcus multilocularis, cystic tumors, ultrasound-hydatid serology.

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].

It is often based on the couple ultrasound-hydatid serology, but only the histopathological study can confirm the diagnosis of ovary hydatid cyst.

CASE REPORT

A 40-years-old woman (G4P4), consulting for lower abdominal pain and frequent urination for the last 3 months. The clinical examination was normal besides a discrete pain in the supra-pubic region.

Ultrasound of the abdomen showed evidence of cystic mass on the left ovary measuring 56 mm by 39 mm (Figure 1).

A CT scan of the abdomen also revealed evidence of a cystic mass on the left ovary, with no enhancement after contrast injection (Fig 2).

The patient underwent a laparotomy where we found a cystic latero-uterine mass measuring 6,5x3,5x4,7 cm. Furthermore, there was evidence of hydatid infestation. An injection of chlorhexidine was done associated to an aspiration.

Total hysterectomy and bilateral adnexectomy were done. Abdomen and pelvic area were explored without any other pathologic findings. The specimen was sent for histopathological examination.

Gross examination found a cystic lesion (Figs 3) measuring 7× 3 × 4 cm, attached to the uterus body. Serial sections showed a well-circumscribed mass greenish-yellow with thick mucinous and gelatinous material.

Histopathological examination revealed, an ovarian parenchyma with an acellular, eosinophilic, laminated membrane-like structure. No scolex was noted. Thus, the diagnosis of hydatid cyst was confirmed through histopathological examination (Figure 4).

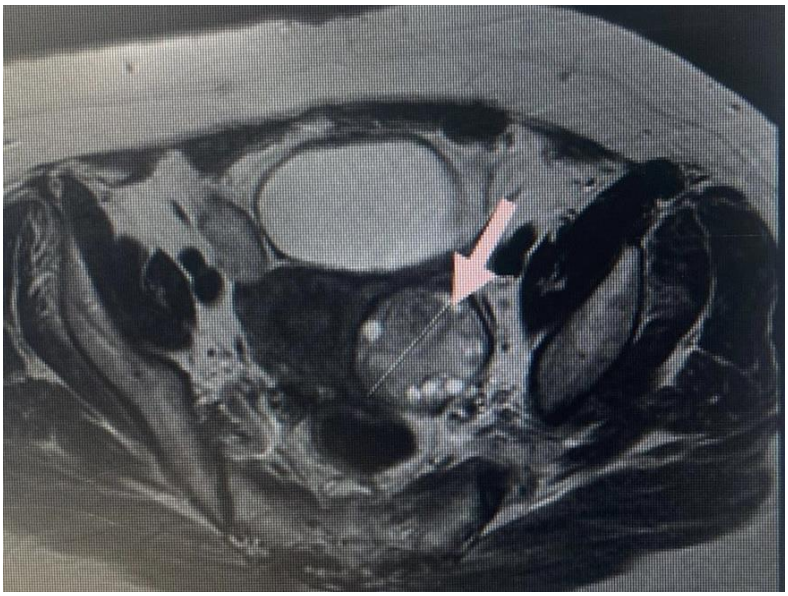

Figure 1: Pelvic MRI in T2-weighted images in axial plan showing a cystic mass on the left ovary, measuring 65 x 35x 47 mm, classified as O-RADS III

Figure 2: A CT scan of the abdomen and pelvis showing a cystic mass of the left ovary, with no enhancement after contrast injection

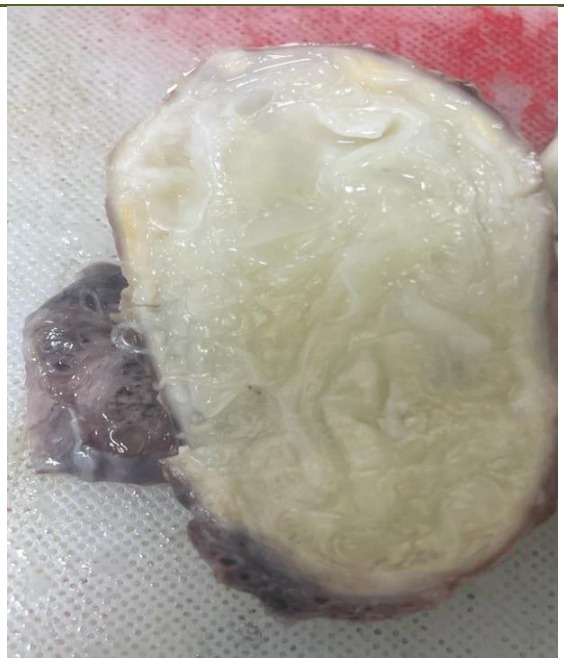

Figure 3: Gross presentation of the specimen showing a well-circumscribed greenish-yellow mass with thick mucinous and gelatinous material

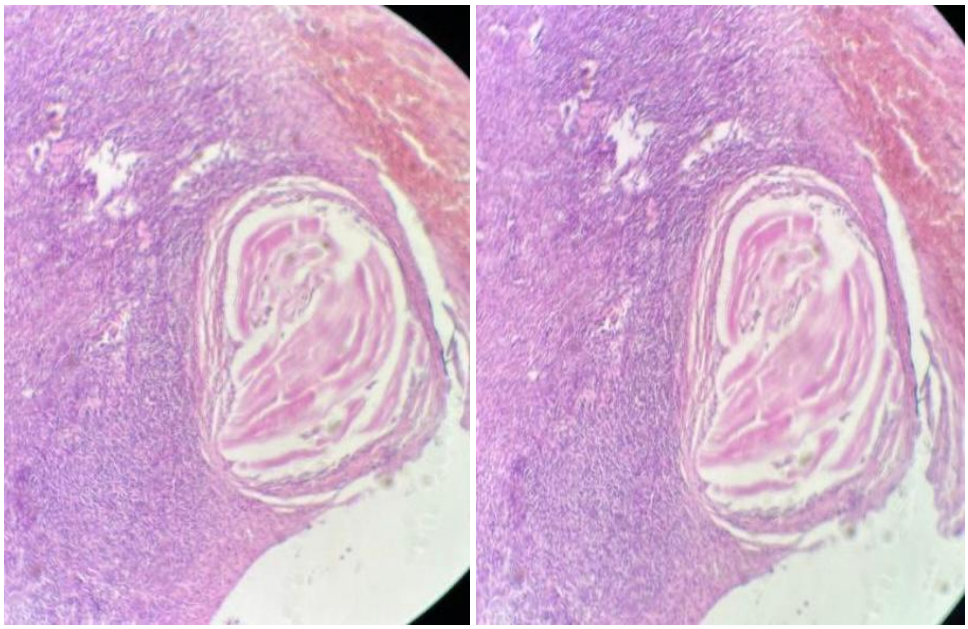

Figure 4: Microscopic examination revealed an ovarian parenchyma with a cyst wall composed of lamellated ectocyst with chronic inflammatory cell infiltrate in pericyst, consistent with the diagnosis of ovarian hydatid cyst

DISCUSSION

Hydatidosis or echinococcosis is a worldwide anthropozoonosis. It is due to human infection by the larval stage of Echinococcus granulosus tapeworm, living in the small bowel of domestic carnivores. Morocco, a traditional breeding country, is one of the most infested countries by this parasitosis [3]. Hepatic and pulmonary localizations are the most frequent but hydatidosis can develop in any organ [4].

The cyst of echinococcus was a rare finding in pelvic sites. The incidence of pelvic localization is between, 0.2 and 0.9%, and 80% of those cases involve the genital area in particular the ovaries [5].

The majority of cases reported in the literature concern patients aged between 20 and 40 years [6].

In our case the ovarian hydatid cyst is most probably a secondary one, due to a spontaneously or iatrogenic rupture of the hepatic cyst removed 20 years earlier. Pelvic echinococcosis symptomatology is non-specific and can include abdominal tumefactions, abdominal pain, menstruation irregularities, infertility

and urinary disturbances [7]. Ovarian echinococcosis can simulate either polycystic disease or malignancy. The difficulties that occur in making a correct diagnosis is due to the non-specific clinical symptomatology, associated with atypical ultrasonographic and radiological images which merely show a solid ovarian masse [12, 13]. A high grade of suspicion or a preoperative diagnosis of echinococcus cyst makes it possible to avoid an intraoperative iatrogenic rupture, and when available, to administer previously an albendazole-based [12].

Pelvic echinococcosis can cause a problem of differential diagnosis with malignant tumors, particularly ovarian ones [3]. There are no pathognomonic serological or immunological tests for hydatid disease [3].

Currently, ultrasound and computed tomography are per- formed for positive and topographic diagnosis of hydatid dis- ease with high specificity and sensitivity [3].

These 2 examinations show the typical appearance of a hydatid cyst which can be single or multi-vesicular [8]. But only the histopathological study can confirm the diagnosis of ovary hydatid cyst.

Histologically, hydatid cyst has three layers, as follows: pericyst or adventitia, laminated membrane (ectocyst), and inner germinal layer (endocyst) [9, 10]. The pericyst is formed by host cells, as a result of chronic inflammatory reaction elicited by the parasite [11]. The ectocyst is located at the host–parasite interface and has a hyaline, acellular structure. The endocyst is formed by parasite and has a fibrous architecture [9, 11]. Sometimes, in fertile cysts, this layer gives rise to protoscoleces, which can be identified inside the cyst floating in a clear, yellowish or turbid fluid [9, 11].

The treatment of choice in ovarian hydatid cysts is surgery which could be either radical or conservative. Care must be taken to reduce the risk of possible cyst's rupture [2].

Ovarian cystectomy, when possible, represents the gold- standard treatment. Cases of hydatid cysts aspirated using saline agents are reported [2].

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 [14].

The genital hydatid cyst and in particular ovary location is an extremely rare condition. The diagnosis is sometimes difficult and confusing.

It is often based on the couple ultrasound-hydatid serology, but only the histopathological study can confirm the diagnosis of ovarian hydatid cyst. The surgical treatment depends on the volume and location of the cysts.

Hysterectomy remains the treatment of choice to avoid recurrences; it is to be discussed according to the patient's age, parity, and desire for pregnancy. Medical treatment is only necessary when the excision is incomplete or for multiple locations. Genital localization affects women essentially and brings 3 issues: etiopathogenic, diagnostic (atypical ultrasound appearances) and therapeutic with the possibility of mutilation [3].

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