

Infected tuboovarian hydatid cyst: a rare cause of tuboovarian abscess

H. Ayse Parlakgumus¹, A. Parlakgumus², B. Haydardedeoğlu¹, F. Bolat³

¹Department of Obstetrics and Gynecology, ²Department of General Surgery, ³Department of Pathology
Baskent University School of Medicine, Ankara (Turkey)

Summary

Pelvic hydatid cysts, although rare, must be considered when evaluating a pelvic mass in women living in an endemic area. The pelvis may become secondarily involved as a result of a rupture of the cyst in another location or be the only localization of the disease. If the cyst becomes secondarily infected, it may mimic a tuboovarian abscess. A 49-year-old multipara was admitted to the emergency department with the complaint of fever, generalized abdominal pain and distension. Abdominal ultrasound revealed a 4 cm cystic structure in the liver and the gynecological examination was normal. The patient's abdominal pain receded spontaneously, so she was prescribed albendazole and discharged from the hospital. Ten days later, she complained of pelvic pain, pressure and vaginal discharge. The uterus and adnexa were tender on pelvic examination. Ultrasound revealed an 8 cm uniloculated cyst with free floating internal echogenities located between the bladder and the uterus. At surgery a 10 cm right-sided tuboovarian mass was present. A germinative membrane was present inside the abscess and pericystectomy with unilateral salphingo-oophorectomy was performed.

Key words: Abscess; Hydatid; Cyst; Pelvic.

Introduction

Pelvic hydatid cysts are rare entities which constitute 2.2% of the cases of hydatid disease [1]. The pelvis may become secondarily involved as a result of a rupture of the cyst in another location or be the only localization of the disease. Here we present a case of tuboovarian hydatid cyst secondary to seeding of a parasite as a result of a rupture of the cyst in the liver. The cyst was infected and caused a tuboovarian abscess.

Case Report

A 49-year-old multipara patient was admitted to the emergency department with the complaint of fever, generalized abdominal pain and distension. She had a history of low-grade abdominal pain for the previous month. Her abdominal ultrasound (US) performed at another hospital revealed a 4 cm cystic structure in the liver. The cyst was considered as a simple cyst requiring no further tests. At the initial examination, the abdomen was distended and tender. She could pass gases and stool. The white blood cells (WBC) and C-reactive protein (CRP) were elevated (16.7 cell/mm³ and 187, respectively). Abdominal computed tomography (CT) showed a 4 cm ruptured cyst in the liver and perihepatic and loculated pelvic free fluid. Speculum examination revealed no discharge. There was no tenderness on cervical motion at bimanual examination. On US, an intrauterine device was normally located and the ovaries were normal. Free fluid was present in the Douglas pouch.

A cyst hydatid hemagglutination test was done and since the test was positive, the patient was put on prophylactic antibiotic and albendazole treatment. Her abdominal pain receded and two days later she was prescribed albendazole and discharged from the hospital. Ten days later, the patient complained of

pelvic pain and pressure. At the pelvic examination, there was no discharge. However, there was tenderness on the suprapubic region. US examination revealed an 8 cm uniloculated cyst with free floating internal echogenities located between the bladder and the uterus (Figure 1). Magnetic resonance imaging was done to ascertain the nature of this rapidly appearing cyst, and the cyst was confirmed to be a hydatid cyst. PAIR (puncture, aspiration, injection re-aspiration) was done. However the patient's symptoms did not improve. Laparotomy was planned. Before the operation, removal of the cyst located in the liver at the same section was offered to the patient and the relatives, but they declined.

At surgery free fluid was present inside the abdomen. Extensive adhesions were present between the uterus, the adnexes and the intestines. A 10 cm, right-sided tuboovarian mass was present. The cyst ruptured during mobilization from the ovarian fossa and purulent fluid was drained. A germinative membrane was present inside the abscess, and pericystectomy with unilateral salphingo-oophorectomy was performed. Hypertonic saline was applied to the peritoneal surfaces to avoid intraperitoneal seeding. A drain was left in the right ovarian fossa and the operation was completed. Specimens for culture were obtained during the operation and culture results revealed coagulase negative staphylococcus resistant to multiple drugs.

The patient had an uneventful postoperative course, received antibiotics, and was discharged five days later. Histopathologic examination of the specimen revealed a laminated membrane, surrounded by foreign body giant cells and lymphoplasmacytic infiltrate in the ovarian stroma (Figure 2). The diagnosis of ovarian hydatid cyst was made on pathological examination.

Discussion

Hydatid cyst is a parasitic infection caused by *Echinococcus granulosus*. It is endemic in the Mediterranean, the Middle East and South African countries. The definitive hosts are dogs, wolves and foxes; the intermediate hosts are sheep, cattle, pigs, horses, camels, and humans.

Revised manuscript accepted for publication April 8, 2010

Fig. 1

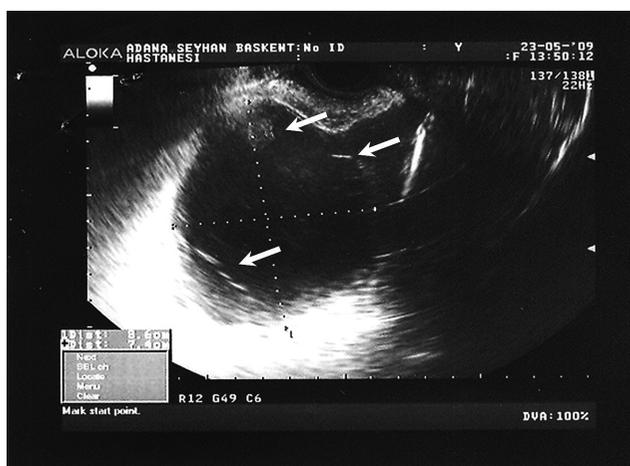


Fig. 2

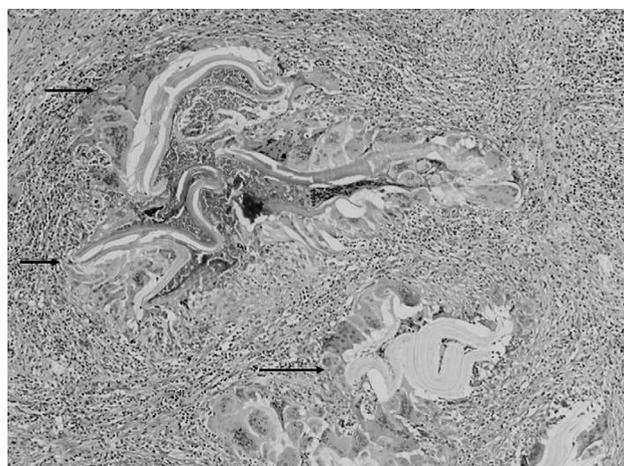


Figure 1. — Free floating internal echogenities inside the cyst.
 Figure 2. — The microphotograph of the lesion reveals a laminated membrane (arrows) surrounded by foreign body giant cells and lymphoplasmacytic infiltrate in the ovarian stroma (hematoxylin and eosin x 100).

Usually the patients are symptom free, but when symptoms are present, the most common are abdominal pain and distension. The pain is usually dull in nature and can be exacerbated by rupture of the cyst. If the cyst is secondarily infected, fever may be present. The patient may feel unwell due to the induction of toxic and allergic reactions by hydatid cyst fluid.

The organ primarily involved is the liver in 80% of the cases. Less commonly involved sites are the lungs, brain, heart, pericardium, kidney, retroperitoneum, breast, spleen, joints and thyroid [2].

Pelvic involvement is also possible and involvement of the uterus, ovaries and tuba have been reported [3, 4]. The cyst may rupture occasionally. In such cases anaphylactic reactions or secondary seeding may occur. The cyst may drain into the peritoneum or may open into the intestines, renal pelvis and biliary tree [5].

Usually pelvic involvement is secondary due to secondary seeding. However, primary pelvic hydatid cysts have also been reported. Hematologic or lymphatic access to the pelvis is the proposed mechanism for access of the parasite [6]. In the present case there was a known hydatid cyst in the liver. At the initial pelvic examination, the adnexes were normal. However, ten days later there was a huge cystic mass between the bladder and the uterus. Free floating internal echogenities inside the cyst strongly suggested a hydatid cyst.

Involvement of the ovaries may be unilateral or bilateral. The cyst may mimic ovarian malignancies. If the cyst becomes secondarily infected, it may mimic a tuboovarian abscess.

US is usually sufficient for the diagnosis and it is highly useful in endemic regions. The cysts may be cystic or solid in appearance. The daughter cells may also give the appearance of a honeycomb [6]. MRI may help to better delineate the relationship of the cyst to the neighboring organs.

Surgical treatment with removal of the cysts is the treat-

ment of choice. Surgical treatment is used for all cysts that are larger than 15 cm, for those that are complicated, and those that are not suitable for percutaneous drainage such as those with fluid collection with septa (honeycomb sign) and heterogeneous echographic patterns on US views. In the present case, the daughter blisters inside the cyst constituted a heterogeneous echographic pattern.

Albendazole is effective in preventing recurrences. It is started one week before surgery and continued four weeks postoperatively. However, medical therapy is not preferred as a first-line therapy except for patients who are not eligible for surgery [6].

In PAIR therapy aspiration of the cyst is followed by injection of protoscolicidal substances (20% sodium chloride solution, 95% ethanol or bethadine solution). It is indicated in large multiple cysts of the liver, spleen and kidney and bones, inoperable cases and relapses after surgery. Contraindications are lung cysts and communicating cysts [6].

Pelvic hydatid cysts, although rare, must be considered when evaluating a pelvic mass in women living in an endemic area. They have a potential for rapid growth. In the present case a huge cystic mass developed in the right adnexa within ten days of the rupture. Prognosis may be complicated by anaphylactic and toxic reactions, secondary seeding and implantation and infection. Recurrence after operation is rare (2%). However, the patients should be followed-up by regular scans [5].

Informed consent was obtained from the patient to submit this case report.

References

- [1] Bickers W.M.: "Hydatid disease of the female pelvis". *Am. J. Obstet. Gynecol.*, 1970, 107, 477.
- [2] Engin G., Acunas B., Rozanes I., Acuna G.: "Hydatid disease with unusual localization". *Eur. Radiol.*, 2000, 10, 1904.
- [3] Okumus Y., Tayyar M., Papiroglu T., Aygen E.: "Uterine hydatid cyst". *Int. J. Gynaecol. Obstet.*, 1994, 45, 51.

- [4] Başgöl A., Kavak Z.N., Gökaslan H., Küllü S.: "Hydatid cyst of the uterus". *Infect. Dis. Obstet. Gynecol.*, 2002, 10, 67.
- [5] Mehra B.R., Thawait A.P., Gupta D.O., Narang R.R.: "Giant abdominal hydatid cyst masquerading as ovarian malignancy". *Singapore Med. J.*, 2007, 48, 284.
- [6] Salvaggi F.P., Fabiano G., Santacroce S., Traficante A.: "A retrovesical echinococcal cyst. Unusual cause of urinary retention". *Eur. J. Urol.*, 1978, 4, 60.

Address reprint requests to:
H. AYSE PARLAKGUMUS, M.D.
Başkent Üniversitesi Seyhan
Araştırma ve Uygulama Hastanesi
Barajyolu 1. Durak 01110 Seyhan
Adana (Turkey)
e-mail: ayseparlakgumus@yahoo.de