

## Case Report

### Large Hydatid Cyst of Ovary A Very Rare Case Report

Farzaneh Mohammadi Zia<sup>1</sup>, Seyed Jaber Mousavi<sup>2</sup>

1. Dept. of Pathology, Tehran University of Medical Sciences, Tehran, Iran

2. Dept. of community medicine, Tehran University of Medical Sciences, Tehran, Iran

#### ABSTRACT

Human hydatid cyst is a wide spread disease. It is an endemic disease in Iran. Hydatid cyst is extremely rare in the female reproductive organs. This is a case report of ovarian hydatid cyst in a 42-year-old woman. She presented with feeling of enlargement of abdomen and abdominal pain. On physical examination, a large mass in lower abdomen palpated. Ultrasonography reported a heterogeneous multicystic mass measuring 155×97 mm in hypo gastric area. The CT-scan with IV contrast reported a huge cystic lesion, containing multiple septi that could be due to ovarian lesion. After surgery, histopathological examination showed typical laminated &germinative layers with hexagonal scoleces of hydatid cyst. Since the common sites of hydatid cyst are liver, lung, etc and the imaging studies are highly diagnostic for hydatid cysts; this illustrated case is interesting for uncommon site, not suggested by imaging studies and with clinical (surgical) impression of malignant ovarian tumor.

**Key words:** Hydatid Cyst, Ovary

#### Introduction

Hydatid disease is a wide spread disease. It is an endemic disease in Iran (1). It is caused by the parasitic tapeworm *Echinococcus granulosus*. *E. granulosus* is a 5-mm long worm, with a lifespan of 5-20 months within the jejunum of dogs. Dog is the definitive host harboring the adult worms. Eggs of *Echinococcus* present in dog's feces

when ingested by man leads to the development of larval forms in various organs producing hydatid cysts – thus the man acts as an intermediate host. Echinococcal cysts are mostly found in the liver (60%-70% of cases), followed by the lungs (10%-25%), spleen, ovaries, kidneys, brain, bones and heart, but rarely elsewhere in the body (2). Hydatid disease in extra hepatic locations usually remains asymptomatic unless the cyst grows and produces

---

Received: 13 April 2010

Accepted: 27 November 2010

Address communications to: Dr Seyed Jaber Mousavi, Department of community medicine, Tehran University of Medical Sciences, Tehran, Iran

E-Mail: jaber\_565@yahoo.com

symptoms due to pressure, rupture to the pleural or peritoneal cavity, secondary infection, or an allergic reaction (3). The etiology and pathogenesis of this affection may give rise to many different clinical signs, problems with pre-operative diagnosis.

Primary involvement of pelvic organs is very rare. We report the rare case of a 42-year-old woman with a large hydatid cyst in her left ovary. The purpose of this report is to add to the literature a unique description of a very large hydatid cyst of the ovary in a woman, which could mistakenly diagnose and treat as a huge tumor.

### Case Report

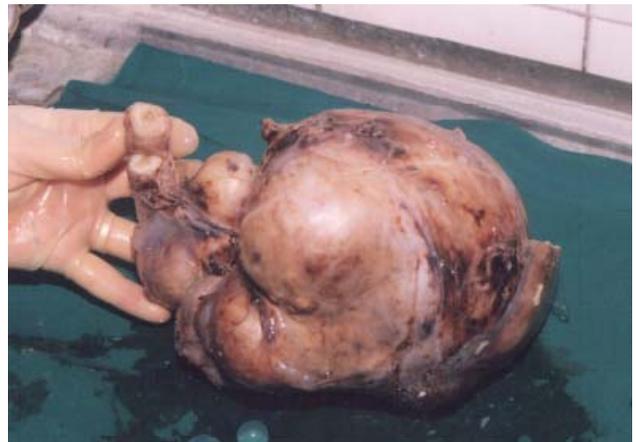
The illustrated case is a 42-year-old female who presented with feeling of enlargement of abdomen and abdominal pain from two months earlier. There was not nausea, vomiting, and loss of appetite. There were not difficulties in defecation and not in urination. On physical examination, a large mass in lower abdomen palpated and in gynecological examination the height of uterus and left adnexa were not determined due to the presence of the large mass in this region. The right adnexa was free.

On imaging study, ultrasonography reported a large heterogeneous multicystic mass measuring 155×97 mm in pelvic cavity and hypo gastric area with suggestion of ovary lesion. The liver and biliary systems were normal. The CT-scan with IV contrast reported a huge cystic lesion, containing multiple septa in pelvic cavity that could be due to ovarian lesion.

On laparotomy surgery, total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH+BSO) and resection of left ovarian mass with two lymph nodes of right and left parailiacs and a peritoneal seeding on bladder sent to Pathology Department.

The mass consists of a large bi-lobed measuring 190×180×80 mm with weight 1310 grams (Fig. 1). The fallopian tube measuring 5 cm in length

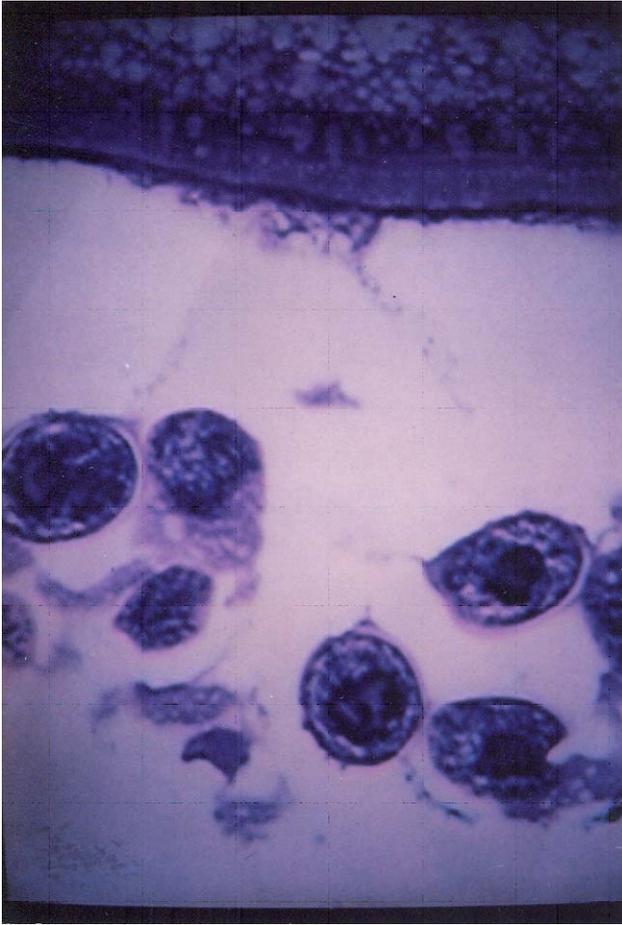
& 1.5 cm in width was extended on small lobe of this cyst. Cut surface showed many small cavities filled with clear fragile white vesicles (Fig. 2). Histopathological examination showed typical laminated & germinative layers with hexagonal scoleces of Hydatid cyst (Fig. 3). The cyst wall had an outer laminated hyaline membrane and inner germinal layer containing nuclei in an eosinophilic protoplasmic mass. There was a significant collection of eosinophils, plasma cells, macrophages and few neutrophils around the endocyst.



**Fig. 1:** Gross appearance of the cyst from the left ovary measuring 190×180×80 mm and weigh 1310 gr



**Fig. 2:** Cut surface showed multilocular cavities filled with clear fragile white vesicles



**Fig. 3:-**Histopathological examination showed typical laminated & germinative layers with hexagonal scoleces of hydatid cyst (Hematoxylin & Eosin staining  $\times 400$ )

It is important to follow up these cases after operation in order to sport recurrences. This patient is well-being now and no other sites of body reveal problems.

### Discussion

Echinococcal disease is an infection of humans caused by the larval stage of *E. granulosus*, which involves the liver, lung and other organs (4). Its distribution is worldwide.

Cestodes or tapeworms are one type of the worms living in the intestine of dogs, sheep, and other carnivores. The fields are contaminated by the detached gravid segment of the worm containing mature eggs that hatch in the intestine of the animals and migrate through the intestinal wall, enter the hepatic circulation, and lodge in the other organs where the hydatid cyst will develop.

Humans are incidentally infected. Passing through the hepatic capillaries, more than 70–80% of these embryos are filtered. Another 10–20% of these embryos are held by the pulmonary capillaries and only less than 10% of the affecting agents can be disseminated through the arterial system (5).

Larvae develop into fluid-filled unilocular hydatid cysts that consist of an external membrane and an inner germinal layer. Daughter cysts originate from the inner layer (6). The inner-most layer or endocyst produce scolices which bud into the cyst cavity and may sediment within the hydatid cavity, i.e., 'hydatid sand' (7,8).

The most frequent complications of liver hydatid cysts include those related to the compression of adjacent organs or to perforation into the biliary tree, pleural, or pericardial cavity, or even to cyst infection (9). The mode of infection is most likely through the blood circulation after passage of the dual-filter composed of the liver and the lung (10). Direct perforation of the cyst into hollow abdominal organs is very unusual (11).

Rarely a small number escape the hepatic filter, enter the systemic circulation, and are scattered to other organs. Primary involvement of pelvic organs is very rare. Hydatid cyst of the ovaries is also very rare and like our case report, just a few cases have been reported in the literature. One of them reported from Saudi Arabia in 2004 and another one reported from Turkey in 2001 (12,13).

Slowly enlarging echinococcal cysts generally remain asymptomatic. The preoperative diagnosis is mainly based on radiological and immunological approaches (10). Some complicated cysts represent diagnostic challenges and to obtain a final diagnosis may require operative intervention (14). Therefore, since the common sites of hydatid cyst are liver and lung, and the imaging studies are highly diagnostic for hydatid cysts; this illustrated case is interesting for uncommon site, not suggested by imaging studies and with clinical (surgical) impression of malignant ovarian tumor. We conclude that ovarian hydatid disease is exceptional; however, it should be considered in the differential diagnosis of ovarian cystic lesions, especially in endemic countries where hydatid disease is a public health problem. We endorse the recommendation that every

gynecologist, radiologist, and histopathologist should maintain a high index of suspicion for hydatid cyst, whenever a septate cystic pelvic mass is found.

### Acknowledgements

The authors declare that there is no conflict of interests.

### References

1. Al-Ansari A, Younes N, Sampige VP, Al-Rumaihi K, Ghafouri A, Gul T, *et al.* GreenLight HPS 120-W laser vaporization versus transurethral resection of the prostate for treatment of benign prostatic hyperplasia: a randomized clinical trial with midterm follow-up. *Eur Urol* 2010, 58(3):349-55.
2. Tsaroucha AK, Polychronidis AC, Lyrantzopoulos N, Pitiakoudis MS, Karayiannakis J, Manolas KJ, *et al.* Hydatid disease of the abdomen and other locations. *World J Surg* 2005,29(9):1161-5.
3. Prousalidis J, Tzardinoglou K, Sgouradis L, Katsohis C, Aletras H. Uncommon sites of hydatid disease. *World J Surg* 1998,22(1):17-22.
4. Tepetes K, Christodoulidis G, Spyridakis M, Hatzitheofilou K. Large solitary retroperitoneal echinococcal cyst: a rare case report. *World J Gastroenterol* 2007;13(45):6101-3.
5. Anvari M, Amirjamshidi A, Abbassioun K. Gradual and complete delivery of a hydatid cyst of the brain through a single burr hole, a wrong happening! *Childs Nerv Syst* 2009,25(12):1639-42.
6. Buttenschoen K, Schorcht P, Reuter S, Kern P, Carli BD, Henne-Bruns D. Surgical treatment of hepatic infections with *Echinococcus granulosus*. *Z Gastroenterol* 2004, 42(10):1101-8.
7. Abbassioun K, Amirjamshidi A. Diagnosis and Management of Hydatid Cyst of the Central Nervous System: Part 1: General Considerations and Hydatid Disease of the Brain. *Neurosurg Q* 2001;11(1):1-9.
8. Altinors N, Bavbek M, Caner HH, Erdogan B. Central nervous system hydatidosis in Turkey: a cooperative study and literature survey analysis of 458 cases. *J Neurosurg* 2000,93(1):1-8.
9. D' Angelica M, Fong Y. Sabinston Textbook of Surgery. 17 ed. New York: Saunders; 2004.
10. Boubbou M, Boujraf S, Sqalli N, Maaroufi M, Tizniti S. Large pancreatic hydatid cyst presenting with obstructive jaundice. *Arab J Gastroenterol* 2010;11(1):47-9.
11. Bougioukas IG, Courcoutsakis N, Korakianitis OS, Tentes AA, Prasopoulos P. Liver hydatid cyst perforated into the large bowel: a case report. *Cases J* 2009;2:6999.
12. Adewunmi OA, Basilingappa HM. Primary ovarian hydatid disease in the Kingdom of Saudi Arabia. *Saudi Med J* 2004,25(11):1697-700.
13. Balik AA, Celebi F, Basglu M, Oren D, Yildirgan I, Atamanalp SS. Intra-abdominal extrahepatic echinococcosis. *Surg Today* 2001;31(10):881-4.
14. Ghafouri A, Nasiri S, Mobin M, Tahamtan M, Nazari M. A Case Report of Primary Hydatid Cyst of Omentum. *Iran J Surg* 2009;(17):79-83.