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A case report: Primary hydatid cyst of uterus

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ABSTRACT

INTRODUCTION: *Echinococcus granulosus* is a parasitic tape worm. The definitive host is the dog and humans are one of its intermediate hosts. It involves organs such as liver and lungs. Uterus involvement is very rare.

PRESENTATION OF CASE: We here report a case of primary uterus hydatid cyst that we had to remove her uterine on left ovary and fallopian tube. Generalized toxic shock and infection due to cyst rupture or organ dysfunction due to invasion (like our patient) or pressure of cyst are complications of this cyst.

DISCUSSION: Because of low incidence of hydatid cysts in uterus it can be misdiagnosed by mimicking other conditions such as multi-cystic ovarian tumor, hemorrhagic ovarian cyst, endometrioma, cystadenoma, leiomyoma and etc.

CONCLUSION: Especially in endemic area for this parasite, one of differential diagnoses of pelvic cyst must be echinococcosis.

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1. Introduction

Echinococcus is a parasitic worm with four forms that named *Echinococcus granulosus*, *E. multilocularis*, *E. vogeli* and *E. oligarthrus*. Disease that made by this parasite (mostly by *E. granulosus*) was named Hydatidosis (Echinococcosis) [1].

E. granulosus has lifespan of 5–20month. This tapeworm's long is 5 mm. Its definitive host is canids, mostly dogs. *Echinococcus* grows up in intestine (jejunum) and releases the eggs. Eggs excreted with the feces and ingested by intermediate hosts (sheep, cattle, pigs, horses, camels and humans) [1,2].

Eggs in the intestine of intermediate host change to oncospheres that penetrate intestinal wall and spread with blood. It can have homing in organs mostly in the liver (75%) and lungs (15%) and others (10%) [3].

In Iran this disease is endemic, especially in north western region. Vahedi et al. reported that this disease in East Azarbaijan is most common in females (57.5% vs. 42.5% in males) and in 20–40 years old. He reported the percentage of involved organs as following: lung = 48.1%, liver = 28.9%, gallbladder = 3.5%, spleen and kidney(each one in) = 2.2%, abdomen, intestine, pleura, bronchus and mediastinum(each one in) = 1.6%, chest wall and heart(each one in) = 1.3%, brain, pericardium, facial sinus, pancreas and esophagus(each one in) = 0.6% and the ovary, uterus, axillary region, pelvis and femur(each one in) = 0.3% [4]. We report here a rare case of

hydatid cyst in uterous. The work has been reported in line with the SCARE criteria [9].

2. Case presentation

A 46 years old single women with complain of pelvic pain and nausea and anorexia admitted to our hospital. She had normal defecation without melena. Her vital signs were normal except for 37.8°C fever and in physical examination of her abdomen, there was a large palpable mass in suprapubic area with mild tenderness but without guarding or rebound tenderness. Other parts of physical examinations were normal. In laboratory findings, she had mild anemia (Hb:10.8 g/dl, Hct:35.6%, MCV:89fL), mild thrombocytopenia (PLT:124,000/micL) and mild leukocytosis (WBC:11,000/micL) and beta-hCG was negative.

Ultrasonography (US) showed a cyst (145*132*95 mm) with approximately volume of 960cc posterior to uterine and bladder that cause to forward displacement of them and rectum displaced to right side. This cyst has internal septations and some daughter cysts and some echogen debris. The right ovary was normal but left ovary couldn't be seen (Fig. 1). Computed tomography (CT) scan showed 135*110 mm multiloculated cyst with a thick wall on left side of the pelvic area that causes displacement of uterine and bladder and rectum. Also left kidney had a mild hydroureteronephrosis because of pressure of the cyst on left ureter (Fig. 2).

Because of this report we prepared patient for surgery. In laparotomy we found a mass like cystic lesion with approximately 15 cm inside the uterus with complete distortion of left adnexa that firmly adhered to left ureter and colon (Fig. 3). After splitting of this mass from other organs, hysterectomy and left salpingo-oophorectomy

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Fig. 1. Ultrasonography of pelvis. A cyst with septation and daughter cysts.

was done. Abdomen and pelvic area explored without any other pathologic findings.

Pathological study reported hydatid cyst inside the uterine cavity. Brain and chest computed tomography for probability of pathological finding also was done one day after the operation that they were normal.

She was stable and well improved one month after the operation and will be followed up by prescribing Albendazole tablets 400 mg twice a day for six months and monthly visit to rule out any complications of this drug by controlling frequent WBC count and liver enzymes.

3. Discussion

Hydatid disease is an endemic infection in Iran, especially in the East Azarbaijan. In worldwide it is prevalent in the Middle East, the Mediterranean region particularly in Greece and Lebanon, Australia, Argentina, and Africa [2]. Almost 2–3 million human cases of echinococcosis are estimated to detect worldwide [5]. Also in one study from Iran prevalence of positive serology for hydatidosis in general population 4.8% reported [6].

This disease mainly affects liver and lungs. In one study involvement rate of the pelvis is reported to be 2%, and in females because of rich bloodstream and direct invasions from peritoneum of Douglas and suspensory ligaments, genital organs most involved with parasite [2].

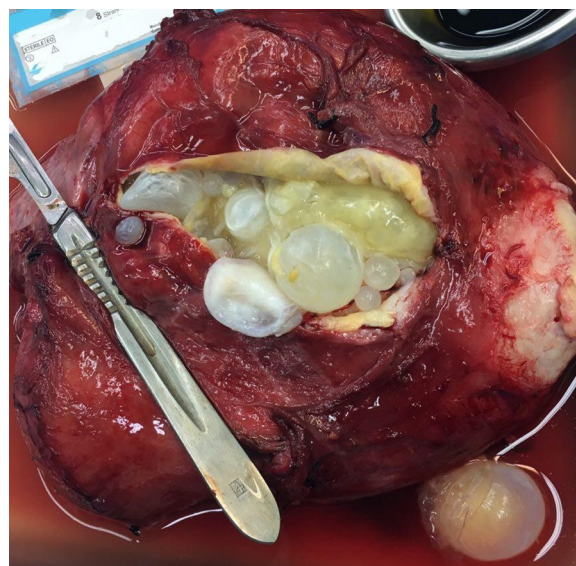


Fig. 3. Uterus with hydatid cysts.

Extrahepatic cysts usually are asymptomatic (for 5–20 years) until cyst grows and by making pressure on organs or rupturing makes symptoms [2]. *E. granulosus* has a slow growth rate (0.53 cm/year in diameter) and makes capsulated, noninvasive, chronic cystic lesion [5].

Because of low incidence of hydatid cysts in uterus it can be misdiagnosed by mimicking other conditions such as multicystic ovarian tumor, hemorrhagic ovarian cyst, endometrioma, cystadenoma, leiomyoma and etc. [2,3].

Ultrasonography is choice method for detection of hydatid cysts, and classified it's in to 6 types (Table 1) [7].

Serological tests like as IgG level against this parasite's Antigen with ELISA (sensitivity: 95%) and indirect hemagglutination test (sensitivity: 87.5%) could be used for diagnosis. Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) also help us [8].

About treatment, there is no “best” treatment and it based on cyst characteristics. WHO-IWGE recommended stage-specific approach [7].

Hydatid cyst in uterus is very rare, and missing these patients can cause to complications such as toxic reaction or infection due

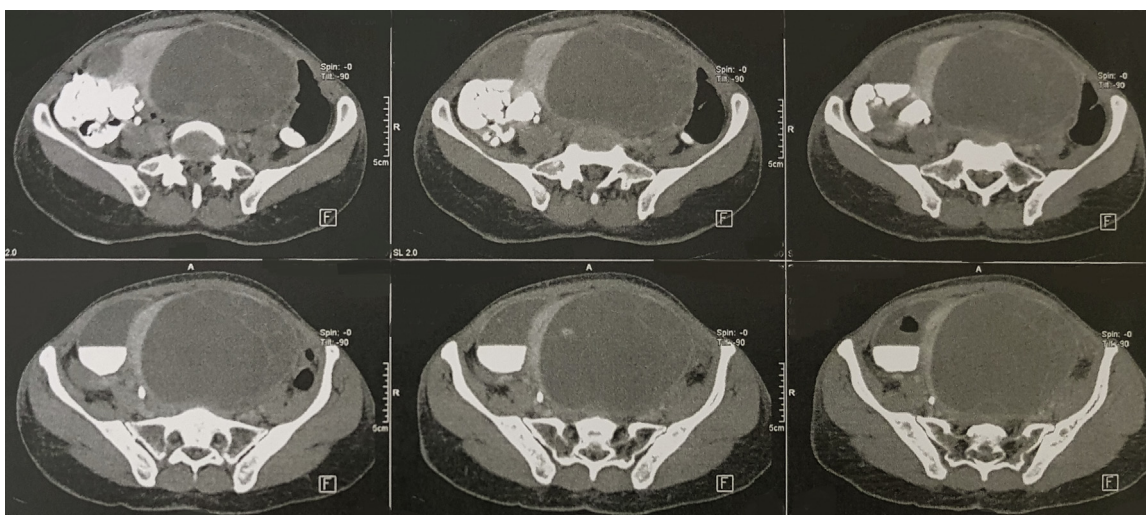


Fig. 2. CT of pelvis. multiloculated cyst with thick wall.

Table 1

WHO–IWGE standardized classification. CE: cystic echinococcosis.

CE1	univesicular and are <50 mm in diameter
CE2	univesicular with a prominent laminated layer, and tend to be seropositive
CE3	a cysts with a prominent lamination that contains daughter cysts. are highly seropositive b characterized by lamination but a lower number of daughter cysts. are highly seropositive
CE4	appear as solid masses
CE5	characterized by degeneration with calcifications
CL	Cystic lesion that is undifferentiated and its source is unknown

to rupturing, or organ damage and dysfunction due to pressure of cyst. So one of the important differential diagnosis for cystic lesions in pelvis in the endemic countries is echinococcosis.

Our institute is a medical education center. The patient provided written authorization for their data to be used for our researching goals and we can publish the results without revealing their ID. This study did not require ethical approval.

Conflicts of interest

This is a case report of medical education center and with researching and education goals with documentation our patients data.

Funding

Imam Reza Hospital's operation room and pathology.

Ethical approval

Our study did not required ethical approval.

Consent

I'm Zari Razzaqi, and I allow to using of my data and images of Surgery researching goals until my identity document is not revealed.

Author contribution

Study Concept: Farzad Kakaei.
Data Collection: Touraj Asvadi Kermani.
Writing The Paper: Kawsar Tarvirdizade.

Registration of research studies

Medical science university of Tabriz, medical education center of Imam Reza, department of surgery.

Guarantor

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