

M. Sirus MD¹
M. Zhanpour MD¹
F. Golshahi MD²

Omental and Retroperitoneal Hydatid Cyst: A Case Report

Hydatid disease is one of the commonest parasitic infections of the liver, rupture of which into the peritoneal cavity leads to secondary echinococcosis. Seventy percent of hydatid disease cases occur in the liver, although any organ may be involved. A case of omental and retroperitoneal hydatid disease along with the hydatid cyst of the liver is present.

Keywords: hydatid, echinococcosis, omentum, retroperitoneal

Introduction

Hydatid disease is a result of infection by *Echinococcus granulosus*. Human is the accidental intermediate host for the larva, expelled from the adult worm that lives in canine intestine.¹

Hydatid cysts may infest almost any tissue in the body, either from primary inoculation or via secondary spread. The liver is affected in approximately two-thirds of patients, the lungs in approximately 25 percent, and other organs including the brain, muscles, kidneys, bones, heart and the pancreas in a small proportion of patients.²⁻⁴ Eighty-five to 90 percent of patients with *E. granulosus* infection have single-organ involvement, and more than 70 percent have only one cyst.⁵

The clinical features of hydatid disease may be nonspecific and the most common complaint is abdominal pain. A recent review found that the most common presenting complaint with hydatid disease of the liver is abdominal distension.⁶

CT scan is the best imaging modality for determining the number, size and anatomic location of the cysts, and is also better than ultrasound in detecting extrahepatic cysts. Surgery renders the definitive diagnosis of hydatid cysts.⁷

Case report

A 70-year-old male farmer referred to our center with a history of 3 months constant pain at the right upper quadrant with no icter, anorexia, nausea, vomiting, weight loss, fever and chills or lethargy. He also complained of terminal dribbling and frequency. The past history of the patient revealed the existence of a solid mass in his right seminal vesicle (Figure 1) which had been biopsied following trans-rectal sonography, and had resulted in normal tissue on the pathological examination. The lesion was not explored further.

On examination, the patient was afebrile, stable in vital signs and no mass was palpable. He had tenderness over the right upper quadrant, which was constant and did not change with respiration.

Laboratory tests were reported to be normal (WBC=7500/mm³, neutrophil=59%, Hb=12.9 g/dl, Plt=203000/mm³, BUN=24 g/dl, Cr=0.8 g/dl, Na=134 mtq/l, K=4.5).

1. Assistant Professor, Department of Radiology, Al-zahra hospital, Isfahan University of Medical Sciences, Isfahan, Iran.

2. Department of Radiology, Al-zahra hospital, Isfahan University of Medical Sciences, Isfahan, Iran.

Corresponding Author:

Mehri Sirus

Address: Department of Radiology, Al-zahra hospital, Isfahan, Iran.

Tel: 0098 311 6685555

Fax: 0098 311 6684510

E-mail: sirous@med.mui.ac.ir

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Fig 1. a-c. Solid mass in right seminal vesicle with calcification. A large prostate is obvious.

CT scan of the abdomen with contrast revealed a hypodense lesion of about 4 cm located in the sub-diaphragmatic region in the right liver lobe, with partial enhancement (Figure 2); a thick-walled cystic lesion of about 5*5 cm that bore a mural nodule, and was located among the duodenum, aorta and left kidney (Figure 3); and still a third lesion of about 5*5 cm on the left, among the normal bowel loops, suspected to be a prostatic mass with extension to the seminal vesicles.

The differential diagnoses based on these findings on CT scan were pancreatic pseudocyst, dermoid cyst, duplication cyst and necrotic lymph node.

Testis sonography was recommended. The sonography of testis reported a solid mass with flakes of calcification in the right seminal vesicle. The prostate and bladder were reported to be normal.

The patient underwent a laparotomy, where the three cysts were macroscopically recognized to resemble hydatid cysts. One cyst was found to be located in the right lobe of the liver adjacent to the gall bladder, which was managed by evacuation and omentoplasty. Another cyst, 5×5 cm, was found behind the bladder over the omentum, which was re-

sected, and the third cyst, 5×5 cm, was detected near the ligament of Treitz, which was also successfully resected. The Cysts were approved microscopically (Figure 4).

Discussion

Hydatid disease is a result of infection by *Echinococcus granulosus*. Humans may become accidental hosts after close contact with infected dogs.¹ Our case had a higher probability of having hydatid disease for being a farmer in close contact with the domestics, less sanitary conditions and poorer self-care, and having lower access to medical care.

Hydatid cysts may be found in almost any site of the body, either from primary inoculation or via secondary spread. The liver is affected in approximately two-third of patients, as in our case as well.²

Primary peritoneal hydatid cyst is extremely rare and is usually secondary to hepatic disease. The overall frequency of peritoneal echinococcosis is approximately 13%. Most of these cases are related to previous surgery for hepatic disease. Still, spontaneous asymptomatic microruptures of hepatic cysts into

peritoneal cavity are not uncommon.⁸ In the present case, a history of falling down could have caused the rupture of the hepatic hydatid cyst leading to the involvement of peritoneal cavity. Also, due to the presence of multiple cysts (3 cysts), it could be concluded that it

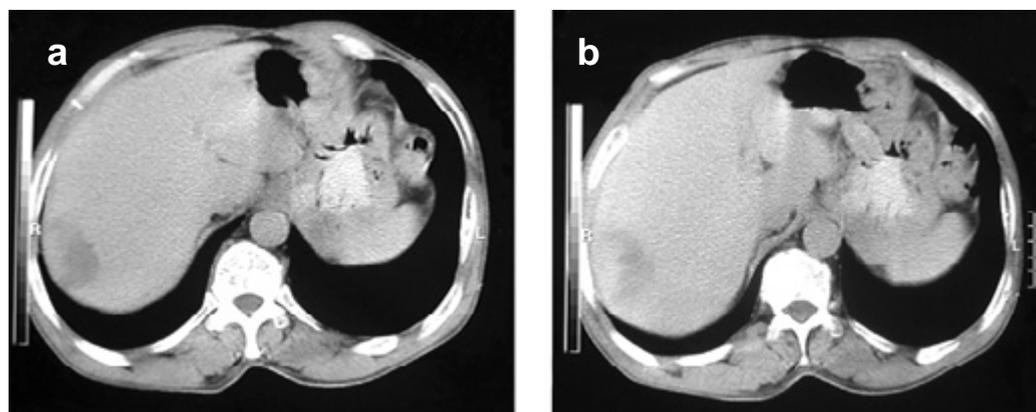


Fig 2. a,b. A 4 cm hypodense lesion in right lobe of liver.

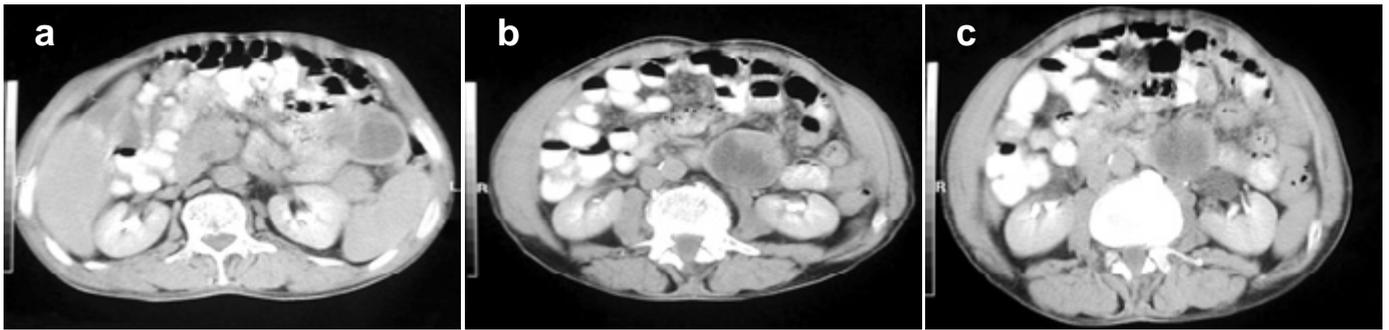


Fig 3. a-c. Cystic lesion, thick-walled with mural nodule.

could have been secondary to shedding from one cyst, probably following a trauma, as the patients reported an incident of falling from the horse back long ago, the released daughter cysts could have formed the other 2 cysts. Still, this hypothesis cannot be supported by plausible evidence.

E. granulosus infection of the liver frequently produces no symptoms. The right lobe is affected in 60 to 85 percent of patients, as was in our case. Significant symptoms are unusual before the cyst has reached at least 10cm in diameter.⁹ Peritoneal echinococcosis usually goes undetected until cysts are large enough to produce symptoms.^{8,10,11} In our case the patient had right upper quadrant pain with a cyst that measured 5×5 cm on CT scan.

Isolated retroperitoneal hydatid cyst is rare and it is usually the result of spontaneous, traumatic or surgical rupture of a primary hepatic cyst.^{12,13}

In the present case, one of the cysts was retroperitoneal, among the left kidney, duodenum and abdominal aorta and the patient had a history of previ-

ous trauma.

The calcification and enlargement of the right seminal vesicle with normal pathologic result in our patients could be due to a dead hydatid cyst. Although isolated hydatid cyst in a seminal vesicle has not been reported previously, in the present case the possibility for the secondary involvement of seminal vesicles from abdominal hydatid cysts exists and the normal biopsy can be the result of sampling from the adjacent normal tissue.¹³ Since no further investigation of the lesion was done after the normal biopsy report, its true etiology cannot be cleared.

Routine laboratory tests, including complete blood counts and liver function tests, may be abnormal but are nonspecific and cannot make a diagnosis. In our patient the laboratory findings were all normal.

CT scan is the imaging of choice for determining the number, size and anatomic location of cysts, and is also superior to ultrasound in detecting extra-hepatic cysts.⁷ Imaging findings in hydatid disease depend on the stage of the cyst growth. It means, whether the cyst is unilocular, contains daughter vesicles, contains daughter cysts, is partially calcified, or is completely calcified (dead), the imaging defers.

So the range of differential diagnosis is wide and missed cases are common. In the present case, the unusual location of the cysts and the shape of the cyst with thick wall and mural nodule on CT, suggested differential diagnoses of pancreatic pseudocyst or necrotic lymph nodes probable.

Therefore, it is to emphasize that in *any* cystic lesion in any anatomic location, hydatid cyst should be considered at least as a differential diagnosis especially in places that hydatid cyst is endemic.

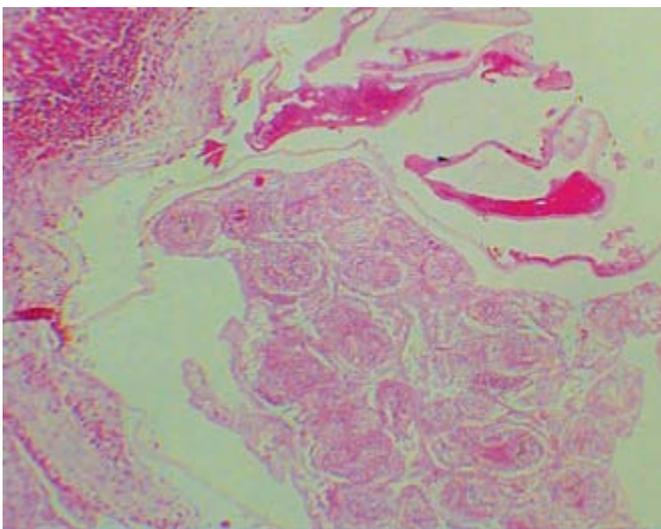


Fig 4. The Pathologic feature of the cysts

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