Choledochal or hydatid cyst: a clinical pitfall

Abdolhassan Talaiezadeh, Taghi Razi, Vahab Astaraki

Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

Prz Gastroenterol 2013; 8 (5): 327–329
DOI: 10.5114/pg.2013.38737

Address for correspondence: Abdolhassan Talaiezadeh Assoc. Prof., Department of Surgery, Imam Khomeini Hospital, Ahvaz Jundishapur University of Medical Sciences, 6135873391 Ahvaz, Iran, phone: +98 9161184922, e-mail: talaiezadeh.ah@gmail.com

Human hydatidosis is responsible for approximately 1% of admissions to surgical wards in endemic region such as Iran [1]. Prevalence of hydatid disease was higher in western regions of Iran such as Khuzestan [2]. In our province the liver (60.5%) was the most commonly involved organ and icterus was noted in 22.5% of cases [3]. The diagnosis is based on enzyme-linked immunosorbent assay (ELISA) for echinococcal disease. Hydatid cyst of the biliary tract is very rare and only 3 cases have been reported so far.

The most probable differential diagnosis of hydatidosis of the biliary tract is choledochal cyst. Choledochal cysts are due to congenital dilatations of the biliary tree. The estimated incidence of choledochal cysts is 1 case in 13,000 to 1 case in 2 million live births [4].

We present a case is which there was no obvious difference preoperatively between choledochal and hydatid cyst. Sometimes there is no distinct pattern for differentiation of hydatid and choledochal cyst in such cases radiographically.

The patient is a 24-year-old woman who was admitted to hospital for evaluation of icterus, intermittent abdominal pain and itching for the last 4 weeks. She also suffered from dark urine and colorless stool (no history of fever or weight loss). The only positive finding on physical examination was mild jaundice. Laboratory findings were as follows: hemoglobin, 12.6 g/dl; white blood cell count: 10 400/mm^3 with no eosinophilia, bilirubin: 5.2 mg/dl with conjugated fraction of 3.1 mg/dl alkaline phosphatase, 2278 U/l, aspartate aminotransferase (AST): 208 U/l, alanine aminotransferase (ALT): 264 U/l. IgG antibody for hydatid disease was negative. Other laboratory data were within normal limits. Abdominal ultrasonography (US) showed a distended intrahepatic biliary system, common bile duct (CBD) and gall bladder. There was also an echo-free cystic lesion measuring 50 mm in the projection of the head of the pancreas with pressure effect on the distal portion of the CBD. Computed tomography (CT) scan of the abdomen confirmed the cystic lesion with thin wall medial to the duodenum, both intra- and extrahepatic dilation and relative distention of the pancreatic duct and gall bladder (Figure 1). Endoscopic retrograde cholangiopancreatography (ERCP) (Figure 2) and magnetic resonance cholangiography (MRC) (Figure 3) were performed. A cystic mass suggestive of a type I choledochal cyst in the proximal part of the distended CBD was reported. Both the CBD and pancreatic duct were communicating with the choledochal cyst and gall bladder.

The patient was operated on with diagnosis of choledochal cyst. During surgery the gallbladder, the right and left main hepatic ducts, the common hepatic duct and common bile duct were found dilated. There was a tense cystic lesion (5 cm × 5 cm × 3 cm) in the distal part of the CBD. After incomplete dissection of adjacent tissue there was some adhesion between the cyst and the biliary system. By aspiration of the cystic mass we found clear fluid suggestive for hydatid cyst (confirmed by pathologic tissue examination). Because total excision of the cyst was impossible due to incorporation into the wall of the choledochus and pancreas, often walled off by adjacent tissue, the cyst was opened, germinative membrane was extracted and partial cystectomy and cholecystectomy was performed. Albendazole was prescribed for the patient for 3 months after surgery. Three years after surgery, the patient had no symptoms and all laboratory tests were in the normal range.

The results of the ELISA test for echinococcosis are positive in approximately 85% of infected patients. The ELISA results may be negative in an infected patient if the cyst has not leaked or does not contain scolices, or if the parasite is no longer viable [5]. But involvement of the biliary tract is very rare and few cases have been reported in the literature [6].

Hydatid cysts can pass the liver barrier, especially in children [7]. This may explain the hydatidosis of the biliary tract. The other disease that has the same config-

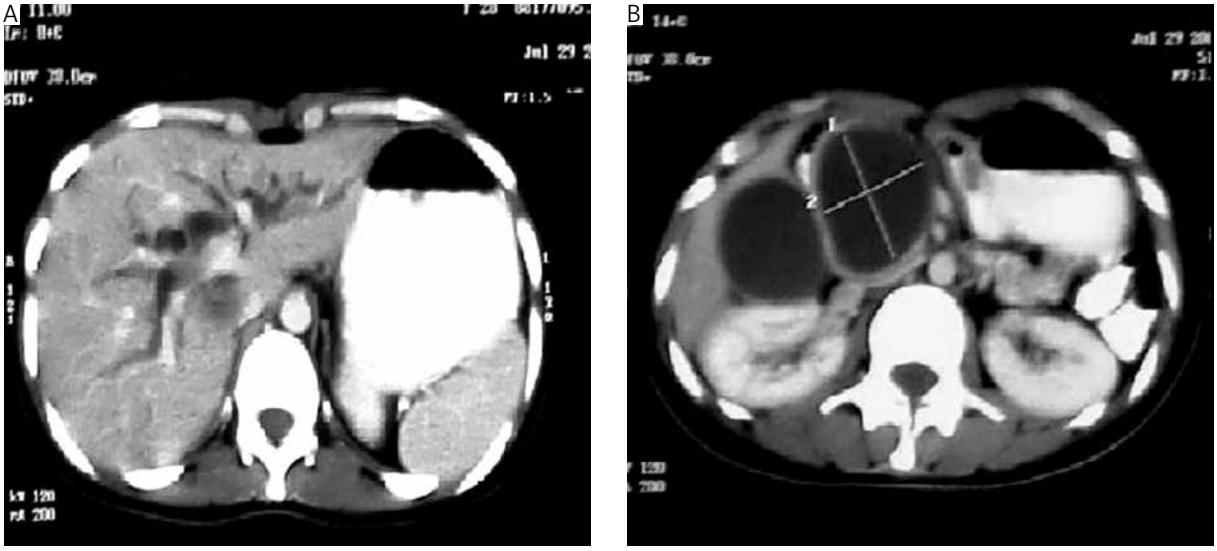

Figure 1. Abdominal CT scan: cystic lesion in distal part of CBD with biliary dilatation

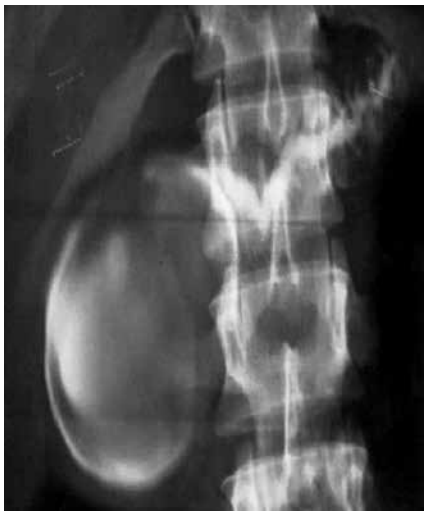

Figure 2. ERCP. Dilated pancreatic duct, communicated cyst in distal part of CBD

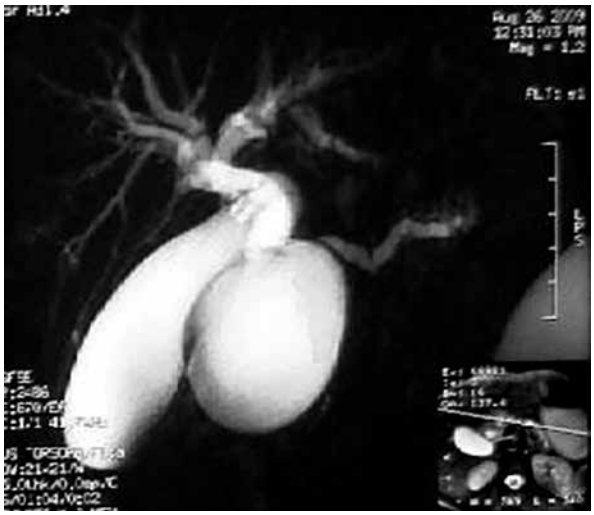

Figure 3. MRC. Cystic lesion in distal part of CBD

uration both in imaging and clinical appearance is choledochal cyst. Because of the risk of biliary malignancy and choledochal cysts and different type of treatment, it is important to differentiate choledochal cyst from hydatid cyst [4, 8].

Various diagnostic imaging modalities including US, CT, magnetic resonance imaging (MRI), cholangiography, and biliary scintigraphy play an important role in diagnosis [9, 10].

Magnetic resonance imaging (MRI) can provide better visualization of the choledochal cyst and biliary tree and define the extent of the choledochal cyst. But there is no obvious difference in MRI between hydatid and choledochal cyst in this case and previous reports.

Approximately 15% of hepatic cysts have been shown to communicate with the biliary system. In 2 cases in which patients were undergoing hydatid cyst surgery, the cystic fluid appeared to be clear, but after the germinative membranes were removed, a connection with the biliary system could be seen. Endoscopic retrograde cholangiopancreatography may not help to differentiate between them because of suspected communication between the bile duct and the hydatid cyst [11]. It has been suggested that small areas of fibrinoid necrosis within the fibrous pericyst may be an explanation for this communication [12].

This report may be useful even for European countries [13] with very low rate of disease compared to our country.

References

1. Rokni MB. Echinococcosis/hydatidosis in Iran. Iranian J Parasitol 2009; 4: 1-16.
2. Rokni MB. The present status of human helminthic diseases in Iran. Ann Trop Med Parasitol 2008; 102: 283-95.
3. Sarmast MH, Javaherizadeh H, Hojati M. Hydatid cyst disease in khozestan province, Iran. East Cent Afr J Surg 2011; 16: 118-22.
4. Mesleh M, Deziel DJ. Bile duct cysts. Surg Clin North Am 2008; 88: 1369-84.
5. Brunicardi FC, Andersen DK, Biliar TR, et al. Schwartz's principles of Surgery. 8th ed. McGrow Hill, New York 2005; 1164.
6. Otgün I, Karnak I, Haliloglu M, Senocak ME. Obstructive jaundice caused by primary choledochal hydatid cyst mimicking radiologically choledochal cyst. J Pediatr Surg 2003; 38: 256-8.
7. Talaiezadeh AH, Maraghi S. Hydatid disease in children: a different pattern than adults. Pak J Med 2006; 22: 329-32.
8. Durgun AV, Gorgun E, Kapan M, et al. Choledochal cysts in adults and the importance of differential diagnosis. J Hepatobiliary Pancreat Surg 2002; 9: 738-41.
9. Todani T, Watanabe Y, Toki A, Urushihara N. Carcinoma related to choledochal cysts with internal drainage operations. Surg Gynecol Obstet 1987; 164: 61-4.
10. Hewitt PM, Krige JE, Bornman PC, Terblanche J. Choledochal cysts in adults. Br J Surg 1995; 82: 382-5.
11. Sönmez K, Karabulut R, Türkyilmaz Z, et al. Clear cystic fluid in hepatic hydatidosis does not rule out communication between cysts and the biliary system. Adv Therapy 2007; 24: 291-5.
12. Stamm B, Fejgl M, Hueber C. Satellite cysts and biliary fistulas in hydatid liver disease. A retrospective study of 17 liver resections. Hum Pathol 2008; 39: 231-5.
13. Hołody-Zaręba J, Zaręba K, Kędra B. Echinococcosis: an endemic parasitic infection. Prz Gastroenterol 2012; 7: 7-12.

Received: 3.09.2011
Accepted: 19.01.2012