



Image of the Month

Intraductal ultrasonographic diagnosis of hydatid membranes in the common bile duct

Jian-Wei Yun^a, Wei Zhu^b, De-Kui Zhang^{a,*}

^a Department of Gastroenterology, The Second Hospital of Lanzhou University, Lanzhou, China

^b Department of Pathology, The Second Hospital of Lanzhou University, Lanzhou, China

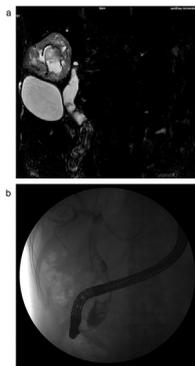


Fig. 1. (a) MRCP demonstrated abnormal material with a multiple cord-like structure in the dilated CBD, and a cystic mass in the right lobe of the liver. (b) ERCP revealed irregular filling defects in the hugely dilated CBD.



Fig. 2. IDUS clearly showed hyperechoic membranes in the dilated CBD as a multi-layered annular image. The image characteristically demonstrating a “cerebral gyrus sign” and an “onion skin appearance” was most consistent with hydatid cysts and highly specific for the imaging diagnosis of hydatid disease.

A 76-year-old Tibetan woman was admitted to us with a one-month history of intermittent abdominal pain, fever and jaundice. There was a history of excision of hepatic hydatid cyst 40 years ago. Computed tomography (CT) and magnetic resonance imaging (MRI) showed a cystic mass in the right lobe of the liver and abnormal material in a dilated common bile duct (CBD), which was demonstrated as a multiple cord-like structure by magnetic resonance cholangiopancreatography (MRCP) (Fig. 1a). Endoscopic retrograde cholangiopancreatography (ERCP) revealed a hugely dilated CBD with irregular filling defects (Fig. 1b).

* Corresponding author at: Department of Gastroenterology, The Second Hospital of Lanzhou University, 82 Cuiyingmen, Chengguan District, Lanzhou, 730030, Gansu, China.

E-mail address: sczdk1972@163.com (D.-K. Zhang).

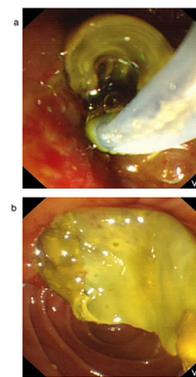


Fig. 3. Bile-stained hydatid membranes were extracted from the CBD by clearance of basket catheter. (a) The transverse section of the membrane showed a multiple lamellar structure. (b) One side of the membrane appeared relatively smooth; the other side seemed to be rough with yellowish-brown mucus and a coarsely granular substance.

Intraductal ultrasonography (IDUS) by the duodenoscope showed hyperechoic membranes in a dilated CBD as a multi-layered annular image, which characteristically demonstrated a “cerebral gyrus sign” and an “onion skin appearance”, highly specific for the diagnosis of hydatid disease (Fig. 2). Endoscopic sphincterotomy (EST) and clearance of the CBD resulted in the expulsion of bile-stained hydatid membranes (Fig. 3).

No classical IDUS images of hydatid membranes in the CBD are currently present [1]. In this case, the endoscopists captured a typical and higher resolution image that strongly established the diagnosis of hydatid disease; and IDUS appeared to be superior to CT, MRI and ERCP in identifying hydatid membranes in the CBD.

Conflict of interest

None declared.

Acknowledgement

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Reference

- [1] Akel R, Faraj W, Haydar A, Masri O, El-Majzoub N, Khalife M, et al. Diagnosis of hydatid cyto-biliary disease by intraductal ultrasound (with video). *Endosc Ultrasound* 2013;2:225–7.