Rupture of a Choledochal Cyst in an Adult Female: A Rare Consequence of Blunt Abdominal Trauma

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To the Editor: A choledochal cyst is an uncommon congenital anomaly characterized by single or multiple dilatations of the biliary tree. Traumatic rupture of a choledochal cyst is an extremely rare event, with the first reported case in 1960 of a child who was kicked by a horse.[1] We report a case of choledochal cyst rupture due to blunt trauma in a Chinese woman.

A 41-year-old Chinese woman without any previous medical history was admitted to the emergency department because of abdominal pain with 72 h of evolution. She had been assaulted by her husband, who kicked her several times in the upper abdomen.

Her body temperature was 37.1°C, with a heart rate of 110 beats/min, and blood pressure of 120/82 mmHg (1 mmHg=0.133 kPa). Physical examination revealed maximal right upper quadrant abdominal tenderness, signs of peritoneal inflammation with rebound, and percussive tenderness.

Blood samples revealed the following: white blood count, 17.7 × 10^9/L; hemoglobin level, 128 g/L; total bilirubin level, 23.4 μmol/L; and blood amylase level, 266 U/L.

Enhanced computed tomography showed ascites, dilatation of the intrahepatic bile duct, and a huge cystic mass in the porta hepatis area extending down to the level of the pancreatic head. A mixed-density mass in the hepatoduodenal ligament area was also discovered [Figure 1a and 1b].

The patient underwent urgent laparotomy, with findings of 1500 ml of fluid, consisting of a mixture of blood, bile, and inflammatory effusion in the peritoneal cavity. Adhesions were discovered under the liver and surrounding the duodenum, with a large amount of bile-like fluid and necrotic substance. A large cystic mass with a 5 cm laceration in the front wall was found in the common bile duct, connecting to the hepatic bifurcation and gallbladder [Figure 1c]. A T-tube cystostomy of the bile duct cyst was performed for temporary external drainage, followed by peritoneal lavage and drainage. The choledochal cyst wall was partly excised for pathological examination. The patient's condition improved postoperatively [Figure 1d]. The histopathological examination confirmed the diagnosis. Definitive surgery including cyst excision, cholecystectomy, and Roux-en-Y hepaticojejunostomy was carried out 12 weeks later. She was discharged on the 16th postoperative day and signed a written consent form for submission of this report. She was asymptomatic after 1 month of follow-up.

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Quick Response Code:

Website: www.cmj.org

DOI: 10.4103/0366-6999.190670

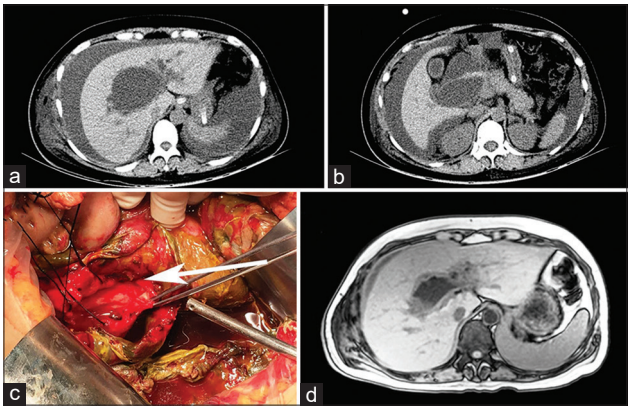

Figure 1: Contrast enhanced computed tomography on admission showing a huge cystic mass in the porta hepatis area and a mixed-density mass in the hepatoduodenal ligament area extending down to the level of the pancreatic head, which proved to be a type IVa choledochal cyst (a), and adhesions under the liver and surrounding the duodenum, with a large amount of bile-like fluid and necrotic substance (b), respectively. (c) Surgical exploration revealed a ruptured choledochal cyst (white arrow) and biliary peritonitis. (d) Magnetic resonance cholangiopancreatography of the choledochal cyst 3 weeks after the initial operation.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Reference

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Received: 07-05-2016 **Edited by:** Qiang Shi
How to cite this article: Chen LJ, Cheng P, Xue YK, Chen LB. Rupture of a Choledochal Cyst in an Adult Female: A Rare Consequence of Blunt Abdominal Trauma. Chin Med J 2016;129:2394.