

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Spontaneous common bile duct perforation—A rare clinical entity

Melissa Amberger^{a,d,e,*}, Noelle Burton^b, Gayanthia Tissera^c, Gerard Baltazar^{a,d,e}, Shani Palmer^b^a Department of Surgery, SBH Health System, Bronx, NY, USA^b Department of Surgery, Montefiore New Rochelle, New Rochelle, NY, USA^c St. George's University, Grenada, West Indies^d New York Institute of Technology College of Osteopathic Medicine, New York Institute of Technology, Old Westbury, NY, USA^e Sophie Davis School of Biomedical Education, New York, NY, USA

ARTICLE INFO

Article history:

Received 17 March 2018

Accepted 22 March 2018

Available online 26 March 2018

Keywords:

Common bile duct
Biliary peritonitis
Cholecholelithiasis

ABSTRACT

INTRODUCTION: Spontaneous common bile duct perforation is an uncommon clinical entity in both adults and children. Few case reports have been published since the first clinical description in 1882. Our work has been reported in line with SCARE criteria.**PRESENTATION OF CASE:** Herein, we describe the case of a 28 year-old female who suffered spontaneous common bile duct perforation while admitted for choledocholithiasis.**DISCUSSION:** The perforation occurred while in-hospital, and extensive imaging and laboratory tests characterized the disease in detail. To our knowledge, this is the first report of spontaneous common bile duct perforation witnessed from pre-perforation through definitive management.**CONCLUSION:** Physicians and Surgeons should seek out this uncommon diagnosis in the patient with suspected Cholecholelithiasis who suddenly become peritoneal on physical exam so that definitive care can be expedited.© 2018 Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Spontaneous common bile duct perforation is an uncommon clinical entity in both adults and children. Few case reports have been published since the first clinical description in 1882.

Because of its relative rarity, diagnosis has typically been confirmed during surgical exploration of the abdomen, often undertaken for other suspected pathology such as a perforated viscus. Mortality is often elevated as the diagnosis is most commonly reported in frail and elderly individuals under going surgical exploration.

In this case report, we describe spontaneous choledochal perforation believed to be due to impacted choledocholithiasis in a young woman with diagnosis made prior to surgical exploration.

2. Presentation of case

A 28 year-old female presented to the emergency department, complaining of postprandial epigastric pain that was associated with nausea and emesis. She denied fever and chills. Her past medical history was significant for gastroesophageal reflux disease as well as hypothyroidism. Abdominal exam was non-tender

* Corresponding author at: Department of Surgery, 4422 Third Ave, Bronx, NY, 10457, USA.

E-mail address: mamberger@sbhny.org (M. Amberger).

<https://doi.org/10.1016/j.ijscr.2018.03.030>

2110-2612/© 2018 Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

org/licenses/by-nc-nd/4.0/).

with negative Murphy's sign. Laboratory studies were significant for transaminitis: AST 343 mg/dL and ALT 490 mg/dL. However, canalicular and pancreatic enzyme and leukocyte levels were within normal levels.

Computed tomography (CT) revealed dilated common as well as extra- and intrahepatic ducts without free fluid or other acute abdominal findings. Right upper quadrant ultrasound demonstrated cholelithiasis without cholecystitis and 10 mm dilated common bile duct (CBD).

On hospital day one, her symptoms markedly worsened with new abdominal distension, diffuse abdominal tenderness, and voluntary guarding in the left lower and left upper quadrants. Magnetic resonance cholangiopancreatography revealed pericholecystic fluid, CBD reduced to 6 mm diameter, resolved biliary ductal dilation, edema within the head of the pancreas, and no evidence of choledocholithiasis. Complex ascites was also now present in the upper abdomen and left paracolic gutter (Fig. 1).

Laboratory studies also demonstrated a marked change. Canalicular enzymes were slightly elevated: total bilirubin 1.4 mg/dL, direct bilirubin 0.8 mg/dL and alkaline phosphatase 135 IU/L. Complete blood count demonstrated significant leukocytosis of 13,100 WBCs/uL with a left shift of 91.5%. Amylase and lipase were also elevated at 1702 IU/L and 1737 IU/L, respectively.

Plain radiographs were negative for pneumoperitoneum. Repeat CT abdomen and pelvis with intravenous and oral contrast demonstrated a large volume of ascites, thickened gallbladder wall, pericholecystic fluid, resolved gallbladder distension and CBD dila-

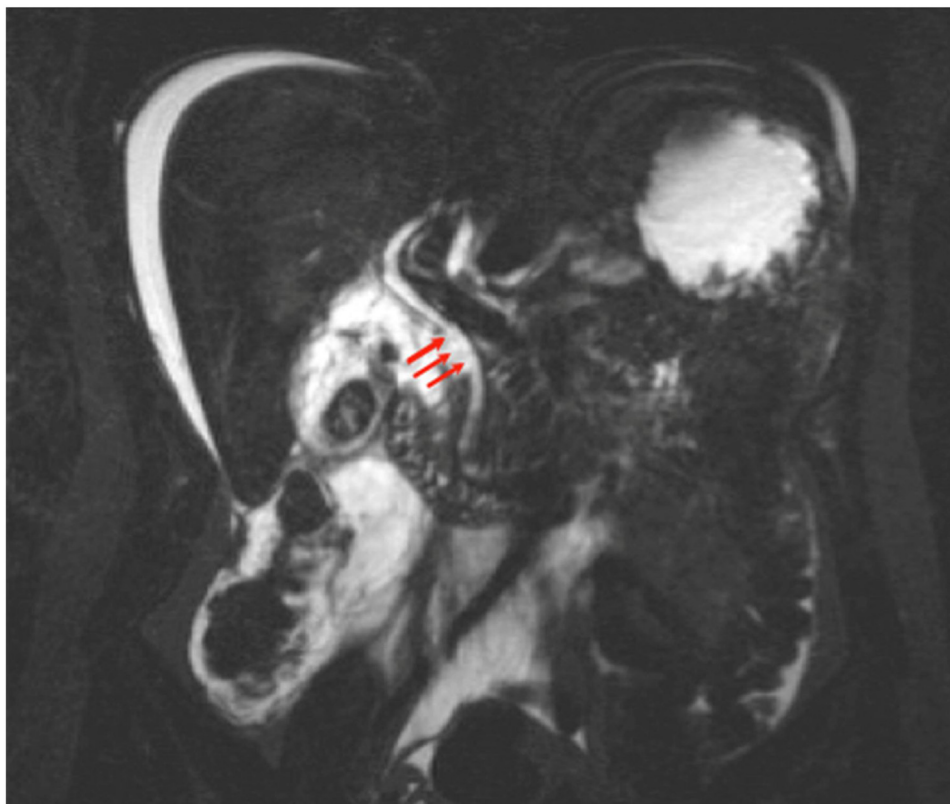


Fig. 1. MRCP showing probable CBD necrosis (RED ARROWS) with bilious ascites.

tion, possible perforation of the CBD, as determined by incomplete visualization of circumferential CBD with large amount of fluid in lesser sac. There was no evidence of oral contrast extraluminal extravasation (Fig. 2A and B).

Hepatobiliary scintigraphy (Fig. 3) revealed tracer accumulation in the subhepatic and perihepatic spaces, indicating bile leak. Image guided paracentesis aspirated 30cc of bilious fluid, and an 8.5 French catheter was placed for further drainage. Fluid studies on the aspirated fluid revealed amylase of 9750 IU/L with negative cultures.

Endoscopic retrograde pancreatography could not localize biliary ductal perforation to either the CBD or common hepatic duct. A covered stent placed across the perforation allowed adequate bile efflux from the liver without extravasation of injected contrast.

Two weeks of nonoperative management led to minimal improvement in clinical condition, and subsequent operative exploration revealed necrotic CBD with an intact, healthy gallbladder. The CBD was resected and a roux-en-y choledochojejunostomy with common hepatic duct to jejunum anastomosis was created. The patient recovered well.

3. Discussion

Non-traumatic perforation of the extrahepatic bile ducts in adults is an uncommon clinical entity. The disease more commonly occurs in infants due to associated congenital anomalies such as choledochal cysts [8] with an incidence of 1.5 per 1,000,000 live births; from 1990 to 2015, 90 cases were reported in infancy [5].

As of 2004, non-traumatic perforation of the extrahepatic bile duct among adults had been reported only 70 times in the English literature since its first description by Freeland in 1882 [6]. A Pubmed search of reports published after 2004 revealed an additional 27 cases, bringing the total case reports to approximately 97 cases in the past 135 years. With very few adult cases reported,

prevalence among adults remains uncertain [10]. However, one researcher approximates the mortality rate to be 30–50%, owing to comorbidities in the elderly who comprise the majority of case reports [1].

The diagnosis of spontaneous CBD perforation is difficult to establish and often delayed due to nonspecific symptomatology [4] and often undiagnosed prior to laparotomy [3,6]. Despite advances in intensive care management, delayed treatment still results in high morbidity and mortality [6,10].

Our case represents a unique presentation in that CBD perforation occurred within the hospital after admission for choledocholithiasis, allowing for multiple imaging studies (CT scan, HIDA scan, and MRCP) and treatment modalities from pre-perforation to definitive management of spontaneous CBD perforation; to our knowledge, all previous reports were performed in patients arriving to the hospital after perforation of the biliary system. This is an exclusive presentation for this condition as many of the case reports occur in frail elderly patients at the time of laparotomy and are not diagnosed prior to surgical intervention.

Furthermore, the lab abnormalities present during work up after the perforation occurred are not surprising after the diagnosis of perforation to the biliary tree. However these lab results also commonly occur in other clinical entities such as gallstone pancreatitis and perforated peptic ulcerations. Imaging abnormalities witnessed in our patient and other previous case reports in conjunction with this pattern of laboratory parameters (canicular enzyme elevations in combination with elevated amylase and lipase) should doubly prompt suspicion for a primary perforation of the biliary tree.

The pathogenesis of spontaneous bile duct perforation is poorly understood, likely related to its rarity. It is currently thought to be related to multiple factors including increased intraductal pressure, fluid stasis, dilation of the bile duct (due to distal obstruction or spasm of the sphincter of Oddi), diverticulum, abnormal glands

Download English Version:

<https://daneshyari.com/en/article/8832675>

Download Persian Version:

<https://daneshyari.com/article/8832675>

[Daneshyari.com](https://daneshyari.com)