

Spontaneous CBD Perforation – A Rare Case

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Abstract: Spontaneous CBD perforation is rare. We report a case of spontaneous CBD perforation which was managed surgically. T tube insertion at the perforation site with closure of perforation should be done considered until contraindicated for spontaneous CBD perforation.

Keywords: Spontaneous, common bile duct, perforation.

INTRODUCTION

Spontaneous CBD perforation is rare, though it is one of the most common causes of surgical jaundice in infancy [1]. It is known to affect the extra hepatic biliary tree and occasionally, the intrahepatic ducts. With the presentation more commonly seen in infants and children the disease is very rarely seen in adults. The presentation can either be acute with biliary peritonitis or insidious as obstructive jaundice. Most of the cases have a preoperative diagnostic dilemma and the diagnosis in most of the cases is made after laparotomy for an acute abdomen. An early, efficient and an effective surgical management is associated with a good prognosis; however, a delay in the correct diagnosis or an inappropriate management may result in bacterial contamination of the biliary ascites, with an unfavourable outcome. There are few cases of spontaneous CBD perforation in pregnancy [2]. Here,

we report a case of 50 year male patient who presented with an acute abdomen with the diagnosis of spontaneous CBD perforation made on laparotomy.

CASE REPORT

A 50 year-old-male patient presented with sudden onset acute abdominal pain and distension with vomiting, and constipation for 4 days. On presentation he was tachypnic and dehydrated, with tachycardia and hypotension with a tender, guarded abdomen. After initial resuscitation an erect abdominal X-ray was done which was not suggestive of any free gas under the diaphragm. With the USG suggestive of free fluid in abdomen and considering the hemodynamic stability of the patient (after resuscitation) a decision to do a Computerized tomography (CT scan) was taken. The CT scan was suggestive of a gall bladder perforation with air in left portal vein [Fig.1].



Fig-1: CT Scan of Abdomen – a gall bladder perforation with air in left portal vein (White marker)

An exploratory laparotomy was done and the operative findings included 1litre of bile-stained purulent fluid with pus flakes with the thickened

gallbladder adherent to duodenum and the transverse colon with a single 0.3 cm × 0.3 cm free perforation present on the anterolateral surface of common bile duct

just distal to the cystic duct and common hepatic duct confluence [Fig.2]. The small and large intestines were normal. There was no evidence of CBD stone or obstruction which was done by an intra-operative cholangiogram. A cholecystectomy was done and the

CBD was explored and the CBD was closed over a T-tube inserted through the site of perforation after a cholangiogram. After irrigating the peritoneal cavity with warm normal saline, the abdomen was closed with a drain in hepatorenal pouch.

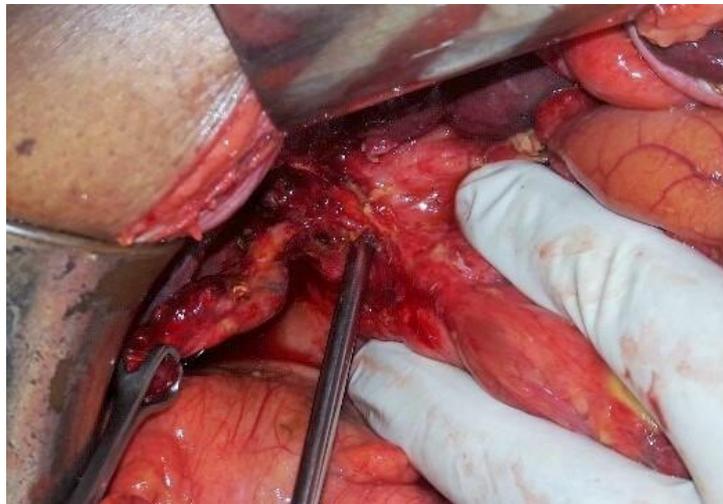


Fig-2: Intra operative picture of perforation present on the anterolateral surface of common bile duct distal to the cystic duct and common hepatic duct confluence (white marker) and the gall bladder retracted (Black arrow)

DISCUSSION

A spontaneous perforation of CBD is rare in adults [3] with perforation mostly found at the confluence of the cystic duct and common bile duct, which supports the suggestion of an area of developmental weakness [4]. Proposed theories for spontaneous CBD perforation include congenital weakness of the CBD, distal obstruction and pancreatic reflux [1]. Most of the cases are associated with choledocholithiasis [5], other causes of spontaneous CBD perforation are choledochal cyst, site of previous CBD exploration, choledochoenterostomies, pregnancy, and acalculous cholecystitis [5-9]. Perforation of extra hepatic biliary tract is more common than intrahepatic biliary tract [1].

The presentation of CBD perforation may be acute or insidious, with insidious form being more common than acute form [10]. Rarely, spontaneous CBD perforation may mimic gastric outlet obstruction [11] duodenal perforation or gallbladder perforation.

The initial radiological investigations include an X-ray abdomen erect to rule out any hollow viscus perforation and a USG abdomen which would suggest of free fluid in abdomen. Inability to visualise the gallbladder can be a suggestive feature of biliary leak causing gallbladder collapse[1]. Intraoperative cholangiogram has been described for intraoperative diagnosis of spontaneous CBD perforation and in patients who are hemodynamically stable with clinical assessment arising a suspicion of CBD injury assessment with MRCP, biliary scintigraphy or ERCP can be done [12, 13].

The management depends on the type of presentation. In patients with insidious onset a staged management helps in converting emergency into an elective situation. In these patients percutaneous drainage of biliary collection or biliary decompression can be done initially for the biliary leak or collection followed by a definitive surgical repair. For patients with acute presentation the recommended treatment for common bile duct perforations is biliary decompression with T tube drainage of the common bile duct [12]. In cases with distal obstruction of the CBD, a biliary enteric bypass can be done [1]. Primary suture repair of the common bile duct is considered unnecessary and even hazardous due to local inflammation and leak [14].

To conclude, spontaneous CBD perforation is rare. The diagnosis of CBD perforation in acute setting is challenging and it is important to have a high degree of suspicion especially in patients with presence of bile in the peritoneal cavity with normal stomach, duodenum and pancreas. T tube insertion at the perforation site with closure of perforation should be done considered until contraindicated for spontaneous CBD perforation.

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