



GB Perforation with Contained Biloma a Rare Complication of Calculus Cholecystitis

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Abstract

Gall Bladder Perforation (GBP) is a rare and potentially life threatening complication of acute cholecystitis. The main cause of GBP is cholecystitis with or without cholelithiasis and is often associated with high morbidity and mortality. It is subdivided into three categories whereas the development of biloma is extremely rare. We report an interesting case of Gall bladder perforation after acute calculus cholecystitis causing sub hepatic biloma formation who presented in emergency with pain in right upper abdomen and fever.

Keywords: Acute cholecystitis; Gallbladder perforation; Biloma

Introduction

Gall bladder perforation (GBP) is an uncommon complication of acute cholecystitis with an incidence rate of 0.8-4.8% and a mortality rate of 9.5% to 16% [1,2]. GBP due to a calculus cholecystitis is more common than calculus cholecystitis. It has male preponderance of above 60 years with systematic diseases [2,3]. The main cause of gall bladder perforation is cholecystitis with or without cholelithiasis [4]. Usually patients with GBP present with localized or diffuse peritonitis causing dilemma in early diagnosis. Radiological evaluations serve a vital role in early identification and appropriate intervention. The proposed mechanism of GBP is persistent inflammation and increased intra cholecystic pressure due to impacted stone leading to ischemia, necrosis, and perforation. The fundus, the most distant part from the main feeding artery, is the most common site for perforation. Classification of GBP was given by Niemeier; Type 1- (acute) free perforation into the peritoneal cavity, Type 2- (subacute) perforation with pericholecystic abscess, Type 3- (chronic) perforation with cholecystoenteric fistula [5]. Type II is the most common type; whereas the development of biloma is extremely rare [6].

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Received Date: 03 Aug 2020

Accepted Date: 08 Sep 2020

Published Date: 11 Sep 2020

Citation:

Krishnanand, Goyal S, Tiwari A, Pranav
Kumar D. GB Perforation with
Contained Biloma a Rare Complication
of Calculus Cholecystitis. *Ann Surg
Case Rep.* 2020; 3(3): 1035.

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Case Presentation

A 61-yrs/M presented with pain in right upper abdomen for 7 days and mild grade fever for 2 days; associated with abdominal distention and non-passage of flatus and faeces for 1 day. There was positive history of DM-II without any other comorbidity. On examination: Distended abdomen, tenderness and guarding in right upper quadrant of abdomen were present with normal vitals. Investigations revealed - Hb 13.1 gm%, TLC was 12200/cumm, T. bilirubin was 1.3 (direct 0.81), AST 42U/L, ALT 57 U/L, ALP 204 U/L; PT/INR, amylase and lipase were within normal limits. X-ray abdomen erect did not show any free gas under the right hemi diaphragm.

- USG abdomen showed distended GB with multiple echogenic foci and GB wall discontinuity causing anechoic collection in subhepatic region; S/O Acute calculus cholecystitis with perforation with pericholecystic collection.

- CECT abdomen revealed dilated GB with impacted calculus in GB neck. Focal perforation in fundus seen with pericholecystic and sub hepatic collection (size 7.5 cm × 3.5 cm) (Figure 1 and 2).

Intra Operative Findings

On the basis of above findings we decided to perform laparoscopic cholecystectomy where perihepatic pus collection with sub hepatic biloma formation was seen (Figure 3). Because of dense adhesions and distorted biliary anatomy gall bladder could not be localized and it was converted to open cholecystectomy. Adhered omentum was gently separated from inferior surface from liver and collections were drained. Evidence of grossly distended gall bladder was seen with adhered omentum in the fundic region suggesting of perforation at that site. Cholecystectomy was performed and a



Figure 1: Saggital CT showing distended GB (arrowhead) with pericholecystic and sub hepatic collection (arrows).



Figure 2: Axial CT showing distended GB with impacted calculus in neck of GB.

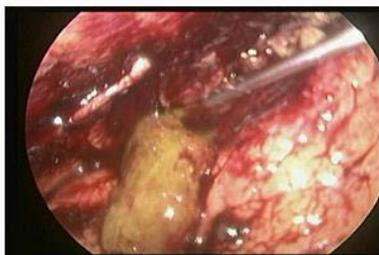


Figure 3: Sub hepatic bilioma.

sub hepatic drain was placed. Postoperative period was uneventful. Grossly specimen showed a pin hole sized perforation at fundus and HPE showed features of cholecystitis (Figure 4).

Discussion

GBP is one of the rare complications of acute cholecystitis. Conditions such as cholelithiasis, infections, malignancy, diabetes, atherosclerosis, steroid therapy, etc. are predisposing risk factors. It is difficult to discriminate clinically between the patients with perforated gallbladder and those with uncomplicated acute cholecystitis. As a result, the diagnosis is often delayed or even missed. Perforation at fundus is less likely to be covered by omentum, so gall stones and bile are more likely drain into peritoneal space causing diffuse peritonitis. But if the perforation occurs at the neck or the duct, it becomes sealed



Figure 4: Pin hole sized perforation seen at fundus of GB.

off by the omentum or the intestines causing localized peritonitis and pericholecystic fluid [2,7]. However, in certain instances, a low grade and chronic bile leakage from the gallbladder becomes encapsulated to form a biloma. Biloma defined as intra or extra hepatic bile collection outside the biliary tree with well demarcated capsule in 1983 by Kuligowska et al. [8]. In certain cases, spontaneous biloma formation may occur due to bile duct disruption but rarely with GBP. CT are scans and USG useful in establishing the diagnosis by revealing a fluid collection. Without timely intervention, the collection may progress to an infected abscess, and become fatal.

Conclusion

Formation of biloma is extremely rare; though GBP is subdivided into three categories, formation of biloma can be classified as another type. Extravasations of unconcentrated bile from a pinhole sized perforation of gallbladder may result in insidious clinical presentation and an undetected leak site. This causes diagnostic dilemma and high morbidity and mortality.

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