

Spontaneous Multiple Gall-Bladder Perforations in a Patient of Hepatitis C: A Case Report

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Abstract: Gall-bladder perforation is an unusual initial presentation of gall-bladder disease. Although uncommon, it is essential to consider the possibility of perforation of the gallbladder in cases of acute cholecystitis, as this condition is associated with a very high mortality rate, more so if it is associated with a co-morbid medical condition. We report a case of spontaneous gall-bladder perforations presenting as generalized peritonitis in a case of hepatitis C. The patient was treated with cholecystectomy.

INTRODUCTION

Spontaneous gall-bladder perforation is a rare condition and may be sequelae to acute cholecystitis¹. If left untreated, it is associated with high mortality^{2,3}. Asymptomatic cholelithiasis is a frequent condition which affects up to 10% of the adult population. Acute cholecystitis develops in up to 2% of patients affected by asymptomatic cholelithiasis. Gall-bladder perforation occurs in 2 to 11% of acute cholecystitis cases. Due to the high mortality that can be caused by a delay in the correct diagnosis and following adequate surgical treatment, gall-bladder perforation represents a special diagnostic and surgical challenge⁴.

Niemeier in 1934 classified free gallbladder perforation into 3 types. Type 1 (acute) is associated with generalized biliary peritonitis, type 2 (subacute) consists of localization of fluid at the site of perforation, pericholecystic abscess and localized peritonitis while type 3 (chronic) comprises formation of internal or external fistulae⁵.

In our study, we report a case of spontaneous multiple gall-bladder perforations with generalized peritonitis (type 1) in hepatitis C patient.

CASE REPORT

A 40 year old male presented in emergency with severe pain in abdomen with episodes of vomiting. He had a history of high-grade fever. On clinical examination, features were suggestive of generalized peritonitis. Routine blood and urine investigations were performed. Ultrasound abdomen showed free fluid in peritoneal cavity with gall-bladder edema with sludge. A plain x-ray abdomen erect view did not show any gas under diaphragm. He was HCV positive with deranged renal functions. Emergency exploratory laparotomy was done. Operative findings were bilious fluid along with pus flakes present in the peritoneal cavity (fig.). Abdomen explored, whole of the gut was found to be normal. There were three perforations in the gall-bladder, with necrosis and bile leak (fig. 1). Gall-bladder was thick, edematous with multiple gangrenous patches with three perforations. Gall-bladder showed no stone. Cholecystectomy was done and the abdomen was closed in layers after thorough peritoneal toilet over a drain. Postoperative recovery was good and uneventful. Specimen was sent for biopsy. The biopsy report shows chronic cholecystitis with necrosis gall-bladder.

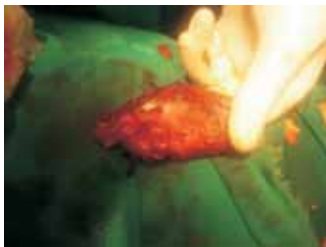


Fig. : Gall bladder specimen showing multiple perforations on posterior surface.

DISCUSSION

The clinical presentation of gall-bladder perforation may range from an acute generalized peritonitis to benign non-specific abdominal symptoms. Niemeier presented his classic description of gall bladder perforation and mentioned that non obstructive cholecystitis with intense inflammation with virulent infection and existence of immuno-compromised state leads to thrombosis of blood vessels and transmural necrosis and perforation⁵.

Gallbladder perforation without any apparent cause is rare and presents a

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difficult problem for diagnosis and management. It is often misdiagnosed as acute appendicitis and at times as duodenal perforation. The reason for high mortality could be that acalculous cholecystitis is associated with severe infection and delay in diagnosis as clinical differentiation between gall-bladder perforation and uncomplicated cholecystitis can often be difficult because the bile leak from a ruptured gall-bladder might be contained in the extra-peritoneal gallbladder fossa, and hence might not produce symptoms of peritonitis immediately⁶.

Also, the sonographic appearances of gall-bladder perforation are diverse and nonspecific. They include wall thickening (>3 mm), distension (largest diameter >3.5-4.0 cm), gall-stones, coarse intracholecystic echogenic debris and bile duct dilatation. Distention of the gall-bladder and edema of its wall may be the earliest detectable signs of imminent perforation. The 'hole sign' (a defect in the gall-bladder wall) is the most specific finding⁷.

Gore suggested that perforation and abscess formation should be suspected in those patients with acute cholecystitis who suddenly become toxic and whose clinical condition is found to deteriorate rapidly⁸.

Although ultrasound remains the preferred initial examination for evaluation of suspected gall-bladder perforation, unfortunately it often fails to demonstrate the perforation because of increased intestinal gas and pain. In the current case the bile in and around the gall-bladder may have led to a misinterpretation of the sonographic image. In contrast, CT imaging is the most sensitive tool to diagnose gall-bladder perforation^{8,9}.

The gall-bladder perforation signs can be divided into direct and indirect signs: the demonstration of either calculi outside the gall-bladder or a ruptured segment of the gall-bladder wall is direct indicators. Indirect indicators include the presence of an abscess outside the gallbladder and the presence of gallstones together with thickening of the gallbladder wall¹⁰. Our patient, had a type 1 gall-bladder perforation as per the Niemeier classification. Our case is unusual because our patient had associated medical co-morbidity i.e. Hepatitis C.

CONCLUSION

Early diagnosis and surgical intervention are the key factors to decrease mortality and morbidity in the management of acute cholecystitis with gall-bladder perforation. Both have significantly improved over the last few decades.

The presence of risk factors certainly warrants aggressive investigation to prevent high morbidity and mortality. However, it is also important to consider the diagnosis of acute gall-bladder perforations in patients presenting as acute abdomen in associated with peritonitis.

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