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Citation

Open Access Archives
http://cogprints.org/view/subjects/OJHAS.html
http://openmed.nic.in/view/subjects/ojhas.html

Submitted: Feb 16, 2016; Accepted: Apr 28, 2016; Published: May 30, 2016

Abstract: Gall bladder perforation is a rare, fatal and life threatening complication of acute cholecystitis. A definitive diagnosis is uncommon before surgery due to which the morbidity and mortality associated with this condition is high. The delay in the diagnosis is attributed to the fact that most patients present with the same symptoms which can range from an acute generalized peritonitis to benign non-specific abdominal symptoms. We report a case of asymptomatic GB perforation which was confirmed on surgery.

Key Words: Gall bladder, perforation, peritonitis

Introduction: Asymptomatic cholelithiasis is a frequent condition which affects up to 10% of the adult population.[1] Acute cholecystitis develops in up to 2% of patients affected by asymptomatic cholelithiasis. Gall bladder [GB] perforation occurs in 2 to 11% of acute cholecystitis cases.[2] Due to the high mortality that can be caused by a delay in the correct diagnosis, gallbladder perforation represents a special diagnostic and surgical challenge. According to Niemeier (1934), perforations are classified into three categories[3]:
- Type I includes patients with free perforation into the peritoneal cavity,
- Type II describes patients with localized perforation and complex fistula formations. Cases of intrahepatic perforation of the gall bladder with liver abscess and cholecystohepatic communication have also been reported

Case Report
A 51 years old female, without any known medical morbidity, presented in our OPD with a 1-day history of sudden-onset abdominal pain and abdominal distension. Her abdominal x-ray showed no signs of intestinal obstruction or pneumoperitoneum. She was advised for a routine USG whole abdomen by the physician. On USG, her GB was grossly distended with a 16mm calculus GB neck. There was discontinuity of posterior wall in fundus region with a hypoechoic collection around GB, in perihepatic region extending anterior to pancreas. A diagnosis of Cholelithiasis with GB perforation was made and findings were immediately discussed with surgeon. The patient was taken to the operating room and laparotomy was performed. Intra-operative findings included a perforation near the fundus of the gall bladder in association with a 16 mm gall stone. Near-total cholecystectomy was performed and a single large gall stone was retrieved. The peritoneal cavity was washed with normal saline and a drain was placed. The rectus sheath was closed but the wound was kept open for healing by delayed primary closure. The patient's hospital course was uneventful and she was discharged from the hospital on the 3rd post-operative day. She returned to the clinic after one week whereby her drain was removed and wound was closed.

Fig 1: Ultra Sound Scan showing grossly distended gall bladder
Early diagnosis and surgical intervention are the key factors to decrease mortality and morbidity in the management of acute cholecystitis with gallbladder perforation. Both have significantly improved over the last few decades. This is partly due to shifting treatment paradigms in recent years with a larger number of cholecystectomies being performed for symptomatic cholelithiasis compared to the past but also the result of better diagnostic possibilities through the use of CT scans.

Our case is unusual because our patient had no prior history suggestive of gallbladder disease and had no known medical co-morbidity. Histopathological examination of the specimen showed features of acute-on-chronic cholecystitis leading to the derivation that the prior episodes of cholecystitis in this patient were clinically silent. Per-operatively our patient's gallbladder showed dense adhesions with the surrounding structures and no signs of gangrene of the rest of the gallbladder. This further strengthens the possibility of clinically covert episodes of acute cholecystitis in the past due to the adhesions noted; however the patient denied any past history of abdominal pain. The gallbladder perforation in our case presumably occurred within the first 12-18 hours of the onset of symptoms.

Conclusion

Early diagnosis of gallbladder perforation and immediate surgical intervention are of prime importance in decreasing morbidity and mortality associated with this condition. The presence of risk factors certainly warrants an aggressively oriented investigation stratagem to rule out this serious complication. However, it is also important to consider this condition as an important differential in patients without any prior features or history of gallstone disease but whose acute presentation may be indicative of biliary pathology as was the case in this patient.

Abbreviations: CT: computed tomography; USG: ultrasonography; GB: gall bladder

Competing interests: The authors declare that they have no competing interests.

Consent: Written, informed consent was obtained from the patient for the publication of this case report and accompanying images.

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