

A Rare Case Report of Gallbladder Perforation due to Gall Stone Presented with Acute Abdomen with Review of Literature

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Abstract: Gallbladder perforation is a rare complication of cholecystitis and cholelithiasis. The high morbidity and mortality rates associated with this condition are due to delays in diagnosis and treatment since signs and symptoms of perforation do not differ significantly from those of uncomplicated cholecystitis. Most of them are identified and confirmed by laparotomy as preoperative diagnosis is very rare, that is, on computed tomography scan and ultrasound. We report a case of spontaneous gallbladder perforation without prior attack of pain in a chronic alcoholic, who developed an acute gallbladder perforation presented with acute abdomen. And we discussed a review of the current literature in this article.

Keywords: Gallbladder perforation, Cholecystitis, Cholelithiasis, acute abdomen

1. Introduction

Gallbladder perforation is a rare complication of acute cholecystitis, and is rarely presents with acute abdomen without any previous attack of pain abdomen. Here we are discussing a rare case report of Gallbladder perforation due to gallstone. Asymptomatic cholelithiasis is a frequent condition which affects up to 10% of the adult population in wealthy nations. Acute cholecystitis develops in up to 2% of patients affected by asymptomatic cholelithiasis. Gallbladder 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, gallbladder perforation represents a special diagnostic and surgical challenge [1]. According to Niemeier (1934), perforations are classified into three categories: type I includes patients with free perforation into the peritoneal cavity, type II describes patients with localized perforation and type III patients with cholecysto-enteric fistulas. Less frequent forms include cholecystobiliary fistula and more complex fistula formations [2]. The mortality rate is between 19 and 24% [3].

2. Case Presentation

A 32-years-old man was presented to the emergency department with complaints of pain in the abdomen for 4 days and obstipation for 2 days. There were no history of nausea, vomiting, diarrhoea or burning micturition, gall bladder disease, NSAIDs (non-steroidal anti-inflammatory) or other medication and no history of trauma. He was a chronic alcoholic for the past 10 years. He had been treated with analgesics in the other clinic but with no relief. Patient's surface temperature was raised (102 degree F), Pulse rate 114 beats /min, B.P – 90/74 mm H.g. on abdominal examinations distended, generalised tenderness over abdomen, guarding and rigidity all over the abdomen. Bowel sounds was absent. Liver, spleen was not enlarged.

Blood investigation report shows normal haemoglobin, but total leucocytes count was high (15100 cells/cumm) with toxic granules.

Plain x-ray of abdomen suggestive of subacute intestinal obstruction without free gas under the diaphragm. Ultra sound of abdomen showed intestinal obstruction, with peritoneal collection. After resuscitation with fluid, broad spectrum antibiotics. Emergency laparotomy was done. On exploration bile coloured fluid collection was noted. All intestinal loop was normal except gall bladder with posterior wall perforation with small stone and dribbling of bile was noticed (Fig. 1). Total cholecystectomy was performed. Resected sample showed a perforation on the fundus with a stone (Fig. 2 and 3). Abdomen closed with an abdominal drain. Histopathology showed acute cholecystitis with area of focal necrosis. Postoperative recovery was nothing significant.



Figure 1: showing intraoperative picture



Figure 2: Showing perforated Gallbladder



Figure 3: showing A stone yellow colour & perforated Gallbladder

3. Discussion

We reported the case of Gallbladder perforation. Perforation can develop early in the course of acute cholecystitis (one or two days) or it may even occur several weeks after onset. The most common site of perforation is the fundus, presumably because of its poor blood supply (60% of the cases in the study of Derici et al[1]. When GB is perforated at the fundus, it is less possibly covered by the omentum, thus the bile drains into the peritoneal space. If the perforation site is not at the fundus it is easily sealed by the omentum or the intestines and the condition remains limited in the right upper quadrant with formation of a plastrone and pericholecystic fluid. This observation suggests that if the perforation site is at the fundus, it is more likely to end up with a type 1 perforation. Acute uncomplicated cholecystitis is more common among females with a female to male ratio of 2:1[4]. However, Gallbladder perforation is more frequent in male gender[5, 6]. Roslyn et al[5] reported that type 1 and 2 GBP tend to occur in younger patients, especially more or less at the age of 50 years, whereas type 3 gallbladder

perforations are more common in the elderly. Type 1 gallbladder perforations are usually seen in patients with diabetes, malignancy, cirrhosis, and immunosuppressive diseases, or during immunosuppressive treatment, without a history of chronic cholecystitis. On the other hand, type 3 gallbladder perforations most often occur in patients with a previous long time history of gall stones [5, 7,8]. Cholecystectomy, drainage of abscess if present, and abdominal lavage are usually sufficient to treat gallbladder perforation [5, 9]. Cholecystectomy may be difficult in type 3 gallbladder perforations. If a cholecystectomy is performed, additional surgical procedures such as repair of the fistula may be required [10, 11]. Cholecystectomy can be performed after the infection is relieved by US guided percutaneous drainage in type 2 gallbladder perforations[12]. Since the difficulties in diagnosis cause delay in treatment, higher morbidity and mortality rates are often encountered [5,9,13]. Studies reported that the mortality rates are decreased to 12%-16% owing to the developments in anesthesiology and intensive care conditions [5,14].

4. Conclusion

Gallbladder perforation is a rare but very serious condition and should be diagnosed and treated as soon as possible to decrease morbidity and mortality. Although standard abdominal CT has an important role in diagnosing Gallbladder perforation, upper abdominal CT for acute cholecystitis in which pericholecystic fluid is found by US may increase the rate of preoperative diagnosis of Gallbladder perforation. But early emergency laparotomy and Cholecystectomy should be the treatment of choice in case of acute abdomen due to Gallbladder perforation.

5. Consent

Consent was obtained from the patient for the publication of this case report.

6. Abbreviations

CT: computed tomography; GB : Gallbladder; US : Ultra sound; GBP: Gallbladder perforation.

7. Competing Interest

All authors declare no conflicts of interest.

8. Authors' Contributions

Dr.Sanjit Kumar Nayak operated this case, Dr. Debabrata Saha collected data and prepared this manuscript. Dr. Sanjit revised the report. All authors read and approved the final manuscript.

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