

Type 1 gallbladder perforation: A rare cause of acute abdomen

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Abstract

Gallbladder perforation is rare. Diagnosis is usually made during operative intervention. Delay in recognition is associated with high morbidity and mortality. We report a case of type 1 gall bladder perforation in a male patient with no previous complaints related to gallstones.

Keywords: Gall bladder, niemeier classification, perforation.

Introduction

Gallbladder stones usually present in a predictable fashion. The spectrum of the disease includes biliary colic, cholecystitis, mucocele, empyema and pancreatitis. Rarely gall bladder disease may present as perforation. Niemeier classified perforation into three subtypes.¹ The authors would like to report a case of a 65 year old male patient who presented with spontaneous acute perforation of the gallbladder as the initial presentation of gall bladder disease.

Case Presentation

A 65 year old male with no previous co-morbidities presented to the emergency department of Services Hospital, Lahore with complaints of sudden onset of severe abdominal pain. The pain started almost 12 hours prior. It started initially in the right upper quadrant but within hours had become generalized. It was associated with distension and failure of passage of flatus. Pain was aggravated on movement and coughing and reduced but not relieved by medication. He had no significant previous surgical or medical history. He reported no specific history to suggest any pathology related to gallstones. Vitally patient had tachycardia but was maintaining blood pressure. He had fever of 101°F. Bilateral air entry was normal with no added sounds. Abdomen was distended with generalized tenderness on palpation and minimal movement with respiration. Bowel sounds were absent.

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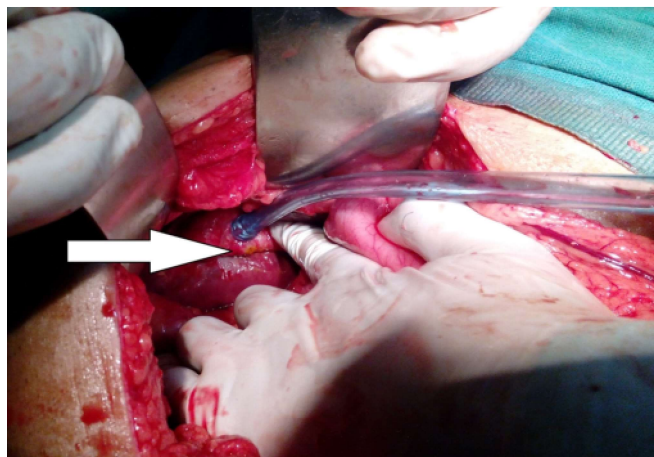


Figure-1: Intra-operative picture showing perforation in GB.



Figure-2: Sponge soaked with bile on packing the right hypochondrium.

Urine output was decreased.

Patient was resuscitated. Provisional diagnosis of acute abdomen was made.

Initial labs showed normal haemoglobin and platelets but markedly raised leucocytes (17×10^9). Coagulation profile was normal. Renal profile and liver profile were normal. Serum amylase and electrolytes were also normal. X-ray chest showed slight blunting of costo-phrenic angle on right side whereas X-ray abdomen showed multiple dilated gut loops with air fluid level. However no free gas under the diaphragm was seen. Ultra-sound showed multiple

dilated gut loops with absent gut movements. Moderate ascites was also seen. Gall stones were seen in the gallbladder. Patient was prepared for exploratory laparotomy. Vital monitoring was started. Wide bore Intravenous line with fluid was maintained. Patient was made nil per os and naso-gastric tube and foley's catheter were passed. Antibiotics, analgesic and proton pump inhibitors were started.

After initial resuscitation patient was taken to the operation theater for exploratory laparotomy. Via a midline incision the abdominal cavity was opened. Almost 1 liter of bilious fluid was encountered. After aspiration and mopping of the fluid the gut was examined. Whole of the gut was normal. No obvious perforation was seen. Since suspicion was of duodenal perforation packing was done in the area of duodenum on which bile stain was seen on the abdominal sponge. The bile was seen to be oozing from a small perforation in the gallbladder near the fundus. There were no adhesions surrounding the gallbladder and the gallbladder wall appeared normal. There were gallstones in the gallbladder. Cholecystectomy was done. Two drains were placed, one in the sub hepatic space and the other in the pelvis. Abdomen was closed with prolene 1 after thoroughly washing and mopping. A corrugated rubber drain was placed in the wound.

Post-operatively he had an uneventful recovery. Discharge in drains was minimal. Drains were removed on 2nd post-operative day. Patient was discharged on 3rd post-operative day. Patient was seen on 7th post op day on outpatient follow up and had made a complete recovery. Histopathology showed chronic cholecystitis.

Discussion

Gallbladder perforation is a rare but life threatening complication of cholelithiasis. In 1934 Niemeier classified gall bladder perforations into three types. Type 1 includes patients with free perforation into the peritoneum. Type II includes patients with localized perforation. Type III includes patients with chole-cysto-biliary fistula and complex fistula formation.¹

Incidence of gallbladder perforation has been reported to be 2% of all cases of symptomatic cholelithiasis.²⁻⁴ Free perforation of the gallbladder is rare.⁵ The most common site of gall bladder perforation is usually the fundus.^{6,7} This is believed to be due to the poor blood supply of the area. Omentum is unlikely to cover the gallbladder in this

area therefore leading to free peritoneal contamination.^{5,8} Our patient similarly had a small perforation near the fundus leading to biliary peritonitis.

There are no characteristic symptoms of the condition, especially in patients with previously unknown history of cholelithiasis. In type 1 perforation, presentation is usually with acute abdomen however the pathology is often not known until the surgery is undertaken. Type 1 usually presents early because of the more severe symptoms. Types 2 and 3 usually have a less acute presentation. In our patient we had suspicion of a small duodenal perforation, however we found gall bladder perforation preoperatively. Delay in diagnosis and treatment is usually the cause of high morbidity and mortality.⁹⁻¹¹ A mortality rate of almost 12% is reported.^{11,12}

Ultra-sound and CT Scan maybe helpful in achieving the diagnosis but usually the patient requires immediate surgery due to the suspicion of acute abdomen, therefore scope of CT Scan is limited.¹³

Conclusion

Gall bladder perforation is a rare pathology. However it must be kept in mind especially in our country where there is a high prevalence of gallstones. With timely intervention mortality and morbidity may be reduced.

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Conflict of Interest: None

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Declaration: Case was seen in February, 2016.

Consent was taken from patient for publication of case report.

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