

Isolated Spontaneous Gall Bladder Perforation in a Child-A Rare Case Report.

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Abstract: Perforation of gall bladder is a rare complication of cholecystitis. Reaching a definitive diagnosis is uncommon before surgery and the morbidity and mortality associated with this condition are high. Isolated gall bladder perforation is even rarer. The clinical presentation of gall bladder perforation is variable, resulting in delay in diagnosis and treatment. We report a case with perforation of the gall bladder without any penetrating injury of the abdomen which rapidly developed generalized biliary peritonitis. This patient promptly recovered after the diagnosis was made and proper surgery instituted.

INTRODUCTION

The gall bladder is a well protected organ, being partially embedded in the liver substance and covered by the rib cage. Gall bladder perforation is a rare complication of cholecystitis. Isolated gall bladder rupture in paediatric patients is even rarer, causes subtle signs, resulting in delayed diagnosis and treatment. Early explorative laparotomy is recommended to reduce the high morbidity associated with this condition.

CASE REPORT

An 11 year old boy presented at the surgical emergency with complaints of pain abdomen and distension since one day. He gave history of physical exertion the day before, following which he developed pain and distension. On admission, he was haemodynamically stable with blood pressure of 120/84 mm Hg and pulse rate of 100/min. On physical examination, there was tenderness over the whole abdomen with hypoactive bowel sounds. Laboratory data including haemoglobin, haematocrit, blood glucose, serum amylase, serum electrolytes, widal and urine examination were all within normal limits. X-ray showed multiple air fluid levels. Abdominal ultrasonography was grossly normal except for enlarged gall bladder and pericholecystic fluid collection and collection in subhepatic space and pelvic spaces. Peritoneal tap showed biliary contents. A provisional diagnosis of acute peritonitis with gall bladder perforation was made. Laparotomy was performed which revealed about 500ml of bilious collection and enlarged gall bladder with perforation, sealed with flacks (Fig.1). Perforation was present at the fundus. Cholecystectomy was performed after ligation of cystic artery and cystic duct and drain was put in subhepatic space. Rest of the viscera and retroperitoneal cavity was normal. Gross examination of gall bladder showed a perforation 2.4 mm x 1.3 mm and necrosis at fundus (Fig.2) with congestion and edema. Postoperative period was uneventful and patient was discharged on seventh postoperative day.

DISCUSSION

In 1934, Neimeir gave a classic description of acute perforation of the gall bladder and concluded that this was a rare condition and demanded eternal vigilance; its prompt recognition and treatment might lower mortality significantly¹. Half a century later and despite his recommendation this disease continues to be misdiagnosed and the mortality remains high. A mortality rate of 11% reflects the seriousness of this condition². Isolated gall bladder rupture is of rare occurrence. The ruptured gall bladder itself is a very rare clinical situation³. Our patient probably developed spontaneous gall bladder perforation due to ischaemia of gall bladder wall with acalculous cholecystitis. Infections, malignancy, trauma, drugs (e.g. corticosteroids) and systemic diseases such as diabetes mellitus and atherosclerotic heart disease are common predisposing factors. The most common sites for the perforation of the gall bladder are the fundus and the body of the gall bladder due to poorer vascular supply of these areas as

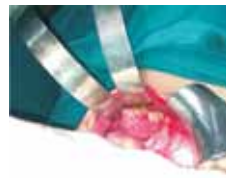


Fig 1: Intraoperative snapshot showing enlarged Gallbladder with perforation, sealed with flacks.



Fig.2: Intraoperative snapshot showing Gallbladder perforation 2.4 mm x 1.3 mm and necrosis at fundus with congestion and edema

compared to the neck of the gall bladder⁴.

Often, it is difficult to predict the diagnosis of gall bladder perforation clinically, it is assumed to be bowel perforation when a patient presents with features suggestive of perforative peritonitis. Gall bladder perforation may be missed on abdominal X-ray. Ultrasonography, computed tomography (CT) scan, and radionuclide scan are used for confirmation of the diagnosis⁵. Other diagnostic modalities include peritoneal lavage and retrograde cholangiography. Although standard abdominal CT has an important role in diagnosing gall bladder perforation, upper abdominal CT for acute cholecystitis in which pericholecystic fluid is found by ultrasonography may increase the rate of preoperative diagnosis of gall bladder perforation. Management includes cholecystectomy and drainage of an abscess, if present with peritoneal lavage.

This case was unusual because our patient was a child, with no prior history suggestive of gall bladder disease, and had no known medical comorbidity and showed absence of gall stones on surgery. Only 21 cases have been reported in literature so far including similar 2 cases by reported by Karkera et al^{5,6}. Histopathological examination of the specimen showed features of acute on chronic cholecystitis giving an indication that, the prior episodes of cholecystitis were clinically silent.

To conclude, such cases should be properly investigated and underlying cause should be ascertained. Delay in surgical intervention is the major reason for increased morbidity and mortality associated with gall bladder perforation.

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