

Gall Bladder Perforation Leading to Intrahepatic Abscess Formation

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Abstract

A 55 years gentleman presented with pain right upper abdomen, fever and vomiting for 5 days. On clinical examination and investigations he was diagnosed to be suffering from uncontrolled diabetes and intrahepatic rupture of gall bladder with abscess formation.

Exploratory laparotomy was done which showed perforation of gall bladder and intrahepatic abscess formation. Cholecystectomy and abscess drainage was done and the patient recovered.

Histopathological examination showed inflamed thick walled gall bladder with perforation on body.

Keywords: acute cholecystitis, gall bladder perforation, intrahepatic abscess

Introduction

Acute cholecystitis with cholelithiasis and biliary colic is a common presentation in emergency room. Patients with biliary colic are treated conservatively for pain management and improve, whereas patients with acute cholecystitis or its complications need admission and treatment as inpatients. One of the uncommon yet fatal complication is gall bladder perforation, especially in patients with comorbidities like diabetes, CAD, etc. Neimeier classified gall bladder perforation as Type I – perforation into peritoneal cavity causing generalised peritonitis, Type II – pericholecystic abscess and localised peritonitis, and Type III – cholecystoenteric fistula or chronic abscess.^[1] Type I and II perforation warrant immediate surgery as patient can slip into peritonitis induced septic shock. Here we are reporting a case of Type II gall bladder perforation with communication between gall bladder lumen and intrahepatic abscess which is very rare and few case reports are available.

Early diagnosis and intervention is paramount for successful treatment of this condition otherwise

patient may land up with other systemic complications increasing morbidity and mortality.

Case Report

A 55 years gentleman presented to casualty with pain right upper abdomen, vomiting, and fever for 5 days. Pain was continuous, dull aching with no radiation and little relief with pain killers. He was also having low grade persistent fever upto 100-101 degree F. He also complained of few episodes of vomiting which was non projectile, bilious and contained food particles. On examination, right hypochondrium and epigastric region were tender and guarding was present. No organomegaly was noted. Hepatic dullness was not obliterated.

Patient was subjected to investigations, total leucocyte count – 10.300/mm³ with 88% neutrophils. His blood urea and serum creatinine were 64 and 1.1md/dl. Liver function test was deranged. Total bilirubin – 1.2mg/dl, Aspartate transaminase – 11iu/ml, Alanine Transaminase – 74iu/ml and Alkaline phosphatase – 173Iu/ml. At presentation, his blood sugar was 624mg/dl and surprisingly he was

unaware of his diabetic status. His HbA_{1c} was 10.8. Ultrasonography whole abdomen showed thick walled gall bladder containing solitary calculus of 9mm size and a cholecystohepatic communication through a 9.3mm rent in the body of gall bladder with a liver abscess of volume 160cc in segment IVb and V.

The patient was given treatment for diabetes control and put on antibiotics with intravenous fluid support. The patient was stabilised haemodynamically and was taken up for surgery.

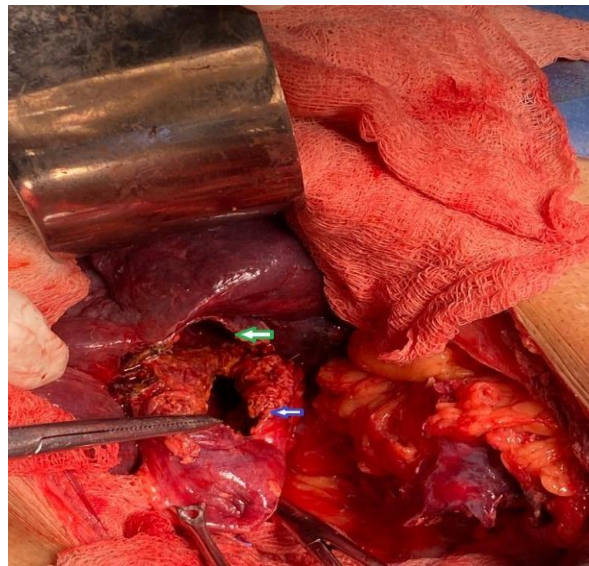
Laparotomy was done with right subcostal incision. Intra-operatively dense adhesions were encountered between gall bladder, omentum and pylorus. Adhesiolysis was done carefully and retrograde gall bladder dissection was undertaken. There was a

communication between gall bladder and liver and a hepatic abscess with thick greenish yellow purulent fluid was encountered [Figure 1]. The abscess was drained and cholecystectomy was done. A drain was placed in subhepatic space and abdominal wound closed in layers.

Patient showed signs of recovery after surgery and was orally allowed on post op day 3 and discharged on day 5 after surgery.

The histopathological examination of the resected gall bladder showed a 5mm perforation in the wall of gall bladder with denuded mucosa and serosal haemorrhage, with overall features suggestive of xanthogranulomatous cholecystitis. The abscess pus culture showed growth of *E.coli* and amoebic serology was negative.

Figure 1. Blue arrow – Gall bladder perforation ; Green arrow – Liver abscess



Discussion

Gall stone disease is a very common presentation in emergency room. Early recognition and intervention has led to decrease in complications related to gall stone disease. Still an incidence of 4.5% is reported for gall bladder perforation.^[2] The cause of perforation is ischemic necrosis of fundus of gall bladder in acute cholecystitis. Due to less vascularity of fundus, it is most common site for perforation.^[3] There is increased incidence of gall bladder perforation in patients with diabetes, immunocompromised status, CAD, etc.^[4] Suspicion for diagnosis is paramount else these are missed and

later present with peritonitis or sepsis, increasing the morbidity and mortality.^[5] Type I perforation is the most common type of perforation which leads to generalised peritonitis. Type II perforation is characterised with pericholecystic localised collection and hence there is always delay in diagnosis and diagnostic dilemma. Type I and II are usually associated with acute cholecystitis and present in early age (<50 years) whereas type III perforation is always associated with chronic cholecystitis and present in people with more than 60 years of age.^[6]

Ultrasonography is the first diagnostic modality. Hole sign can be seen with high resolution probe.^[3] Intrahepatic abscess formation is a very rare presentation and is classified as type II perforation.

Diagnosis in such cases may be delayed and can be established with use of USG and contrast enhanced computed tomography.

Treatment consists of laparoscopic/open cholecystectomy with peritoneal lavage in type I perforation while it involves cholecystectomy (lap/open) with drainage of pericholecystic collection in type II perforation.^[6,7] In type III perforation, cholecystectomy is done along with repair of the communication with the viscus.^[8]

In the reported patient, there was type II perforation with intrahepatic abscess formation in segment IVb and V, which is very rare.

Suspicion of gall bladder perforation and early diagnosis helped in institution of early treatment and quick recovery.

Conclusion

A high degree of suspicion for gall bladder perforation should be kept in patients presenting with features suggestive of acute cholecystitis, especially in patients with comorbidities as delay in diagnosis leads to significant increase in morbidity and mortality, with mortality without treatment being upto 42%.^[9] With early diagnosis this condition can be managed with any of the various treatment modalities available keeping patient's general condition in mind and the associated complications, high morbidity and mortality can be avoided.

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