

Gallbladder Empyema with Pericholecystic Abscess around a Stone Nidus [Outside the Gallbladder]

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Summary:

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Gallbladder disease is relatively common and its complications are seen every now and then. One of the rare complications is gallbladder perforation. In our case we were faced with a picture similar to perforation of the gallbladder upon surgical exploration, with empyema of gallbladder and pericholecystic abscess and a stone located between the gallbladder and the liver bed (inside the abscess) and no perforation in the gallbladder or fistula with the biliary tree could be discerned.

Keywords: Gallbladder empyema, pericholecystic abscess, gallstone, acute cholecystitis.

Introduction:

Cholecystitis can result in complications if not completely treated. These include gallbladder empyema, perforation and cholecystoenteric fistula.¹ Gallbladder perforation (GBP) is a rare but life threatening complication of acute cholecystitis. Sometimes GBP may not be different from uncomplicated acute cholecystitis with high morbidity and mortality rates because of delay in diagnosis. Most cases can only be diagnosed during surgery.² Niemeier, in 1934, classified GBP as: Acute or type I for free perforation and generalized biliary peritonitis. Subacute or type II for pericholecystic abscess and localized peritonitis. Chronic or type III for cholecystoenteric fistula. This classification is still in use. It is important to realize that the three types of perforation have different presentations. Patients with type I perforation usually have risk factors leading to immunodeficiency that prevents localization of the inflammation, thus leading to free perforation and generalized peritonitis. Patients with type II perforations present with features not typical of acute cholecystitis, and type III patients present with features similar to those of chronic cholecystitis and so are difficult to identify preoperatively unless they have obstructive symptoms.³ We report here the case of a 64 year old man with what looks like Niemeier GBP type II, with empyema of gallbladder, pericholecystic abscess, a stone in the pericholecystic abscess, but no perforation in the thickened acutely inflamed gallbladder.

Case report:

A 64 year old male from Baghdad was admitted to us on Dec 12, 2010 with a chief complaint of right upper abdominal pain of 3 days. The patient's problem began 5 months earlier, when he succumbed with a similar attack of right upper abdominal pain that was associated with nausea and vomiting. The pain radiated to the back and to the right shoulder. Then the

patient developed yellowish discoloration of skin and sclera. He was referred to us then as an emergency case. Diagnosed as a case of acute cholecystitis and managed accordingly, with investigations revealing obstructive jaundice. His US showed a thick walled gallbladder with multiple stones and a dilated CBD, a small stone and sludge. He was referred for an ERCP. Sphincterotomy was performed releasing the stone and sludge from his CBD. He improved and was discharged home with a date to come back for a check up US and elective laparoscopic cholecystectomy in 1 month. For personal reasons the patient did not keep up with his appointment only to suffer another acute attack when he came to us 5 months after his first admission with the same complaint and we admitted him to our ward. His past history is relevant for surgery for duodenal ulcer in 1991. Physical examination: The patient was uncomfortable, mildly jaundiced, dehydrated. His vitals were: Pulse 84/ min of good volume, PB 130/80, Temperature 37.3 ° C, RR 18/ min. Abdominal examination: On inspection: There was an upper midline scar of previous surgery. On palpation: tender right hypogastrium with guarding. Murphy's sign positive. Percussion : negative for shifting dullness. Auscultation: normal bowel sounds. Supportive care provided with IV fluid, Broad spectrum Abs, Serial monitoring, NG tube, and Foley's catheter inserted for urine collection. In investigations: WBC 8500, ESR 70, UREA 56, CR 1.3, TSB 2.0, SGOT 29, SGPT 32, ALP 12, PT 17, PTT 33, INR 1.4. Abdominal US Liver: normal size homogenous texture, no focal lesion, no biliary dilatation. CBD: 0.7 cm, non clear lumen (sludge), possibility of ampullary stone. GB: distended (edematous) with thickened wall and multiple gallstones the largest 1.1 cm. Pancreas: normal size, coarse echogenic texture with dilated pancreatic duct, no SOL. Conclusion: Acute calculous cholecystitis. ERCP 15.12.2010 Normal looking ampulla with adequate previous endoscopic sphincterotomy. Deep biliary cannulation: mild proximal CBD dilatation +

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distal saccular CBD dilatation. Short lower CBD stricture. Biliary extraction of pus, sludge and stones. Plastic stent deployed CT scan of abdomen Bilateral pleural effusion more on the right with underlying collapsed consolidation of right lung basal segments. Unilocular subcapsular fluid collection 13.5 X 5 cm & 2.5 X 1.5 cm both 23 HU in density. Subhepatic multiloculated fluid collection near the GB bed measuring 58 X 54 mm, 25 HU. GB distended, thick edematous wall, with pericholecystic fluid collection and fat stranding (features of cholecystitis). There is a stent in CBD. Slight dilatation of right & left hepatic bile ducts and air in the biliary tree. Note: the subcapsular fluid collection can be of infected origin or biloma.

Clinically the patient was deteriorating. He looked ill, with persistent tachycardia. So he was to have an emergency exploration.

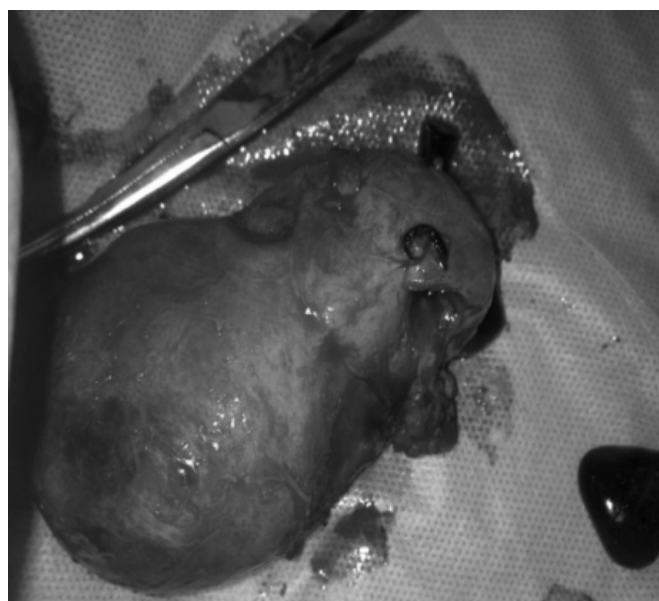
Operative note: Supine position, general anesthesia by ETT. Access through the old midline scar with some extension lower down through a virgin neighborhood. Frozen upper abdomen encountered. The liver is dissected and freed from the anterior abdominal wall by blunt dissection. The subcapsular collection opened up high at the lateral surface with serosanguinous reactive fluid tracking down to the subhepatic area, measured collectively 1100 ml. Staying close to the liver's lower border the GB dissected free from its enclosing adhesions. Pus and a stone were located outside the GB between the GB and the liver and there was no perforation in the GB from which the stone extruded, all but thick walled inflamed GB. Pus was also aspirated from the GB (empyema). GB released from its bed and the cystic duct and artery double ligated and cut. Hemostasis secured to the oozy liver bed. Normal CBD. The abdomen was washed, drained and wound closed. Chest US post op: There is evidence of moderate RT side and mild LT side pleural effusion. A right chest drain inserted and about 2000 ml serous fluid came out. Patient afterwards improved dramatically and was discharged well after removal of the chest tube. On a follow up date one month later an ERCP was done for him and the CBD stent was taken out.



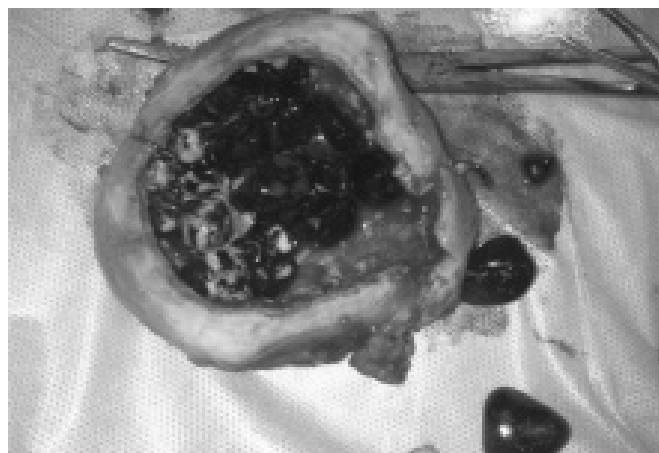
Picture 1: Pericholecystic abscess showing pus between the liver and gallbladder.



Picture 2: A stone was found at this site between the gallbladder and liver surrounded by pus.



Picture 3: The gallbladder removed showing the site of the cystic duct, the ligated cystic artery and the stone found outside the gallbladder



Picture 4: The gallbladder opened showing intact thick walled organ full of polyhedral stones.



Figure 5 & 6: CT scan 5: showing a large subcapsular collection. 6: showing inflamed thick walled gallbladder with pericholecystic collection.

Discussion:

Gallbladder perforations are rare. The reported incidence ranges between 2% and 10.6% in patients with acute cholecystitis, but it is higher in patients who are managed conservatively. GBP is more frequent in male gender. Reviewing the literature our case mostly fits with Niemeier type II, yet no perforation in the gallbladder neither a thinner area was there nor a fistulous tract. No similar reported case was found in the literature up to our knowledge.

Again it has been reported in the literature that a gall stone may get extruded from the abdominal wall at the umbilicus where the abdominal wall is thin as a spontaneous cholecystocutaneous fistula.

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