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A Case Report of Acute Calculous Cholecystitis with Gall Bladder Perforation

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ABSTRACT

Back Ground

Gall bladder perforation is an uncommon life threatening and almost exclusive complication of acute cholecystitis. Gall bladder perforation causes peritonitis hence is a surgical emergency. Acute uncomplicated cholecystitis is more common in women whereas GBP is more common in men and usually occurs at an average age of 50-60yrs. USG remains as the first line imaging technique in diagnosing acute cholecystitis. Though CT is inferior to ultrasound in identifying gall stones, it is considered as the best technique for imaging complicated gallbladder conditions. Cholecystectomy, drainage of abscess if present, and abdominal lavage are usually sufficient in the treatment of gall bladder perforations. Complications include bile peritonitis, hepatic abscess, pelvic abscess, subhepatic abscess, pneumonia, pancreatitis etc.

Case Report

A 60yr old diabetic male patient came to the OPD with the complaints of vague pain in the right hypochondrium since 10days. USG and CT imaging revealed few calculi in gall bladder with associated wall thickening and also adjacent collection with few calculi suggesting gall bladder perforation.

Conclusion

Early diagnosis of gall bladder perforation and immediate surgical intervention are of crucial importance in order to reduce the mortality and morbidity.

Keywords

Acute cholecystitis, cholelithiasis, gall bladder perforation, USG, CT features, treatment and complications.

INTRODUCTION

- Gall bladder perforation is an uncommon life threatening and almost exclusive complication of acute cholecystitis [1]. Sometimes GBP may not be different from uncomplicated acute cholecystitis with high morbidity and mortality rates because of delay in diagnosis.
- Perforation can occur as early as 2days after the onset of acute cholecystitis or after several weeks [2].
- Gallbladder perforation causes peritonitis hence is a surgical emergency [3]. Inflammation of the gallbladder usually causes perforation, which can be due to cholecystitis or malignancy.
- Emphysematous, gangrenous and hemorrhagic cholecystitis may progress to gall bladder perforation.
- Most common site of perforation was fundus (66%) [4].
- Systemic vascular disorders, such as atherosclerotic cardiovascular disease, diabetes, and malignancy, are major risk factors for the perforation of gall bladder [5].

CASE REPORT

- A 60yr old diabetic male patient came to the OPD with the complaints of vague pain in the right hypochondrium since 10days. On examination patient had slight tenderness in the above area. Then the patient was advised USG Abdomen in view of cholecystitis/cholelithiasis. USG showed a hypoechoic collection with calculi adjacent to gall bladder with acute cholecystitis and also cholelithiasis. In view of above, the patient was advised CT Abdomen which confirmed the above features.

USG FINDINGS

- Few (2-3) echogenic foci with posterior acoustic shadowing noted in the lumen and neck of gall bladder, largest measuring approx. 7-8mm-Cholelithiasis.
- Wall thickness measuring 3-4mm with thin rim of pericholecystic fluid-Acute cholecystitis.
- An ill defined heterogenous collection measuring approx. 3.8 X 3.1X 3.2cms (15-20cc) with few calculi (extraluminal calculi measuring 8-9mm) noted adjacent to the gall bladder-likely perforation of gall bladder.
- Defect in the gall bladder visualized.

CT FINDINGS

- Gall bladder appears partially distended with wall thickness measuring 3-4mm and thin rim of pericholecystic fluid & few hyperdense foci largest measuring 7-8mm –Acute Calculus Cholecystitis.
- Note made of a well defined hypodense collection measuring approx. 3.0 X 2.9 X3.6cms (15-20CC) with few hyperdense foci (extraluminal calculi) largest measuring 8-9mm-likely Perforated Gall bladder.

FINAL DIAGNOSIS

- Depending on the above mentioned findings it is diagnosed as **ACUTE CALCULUS CHOLECYSTITIS WITH PERFORATED GALL BLADDER.**

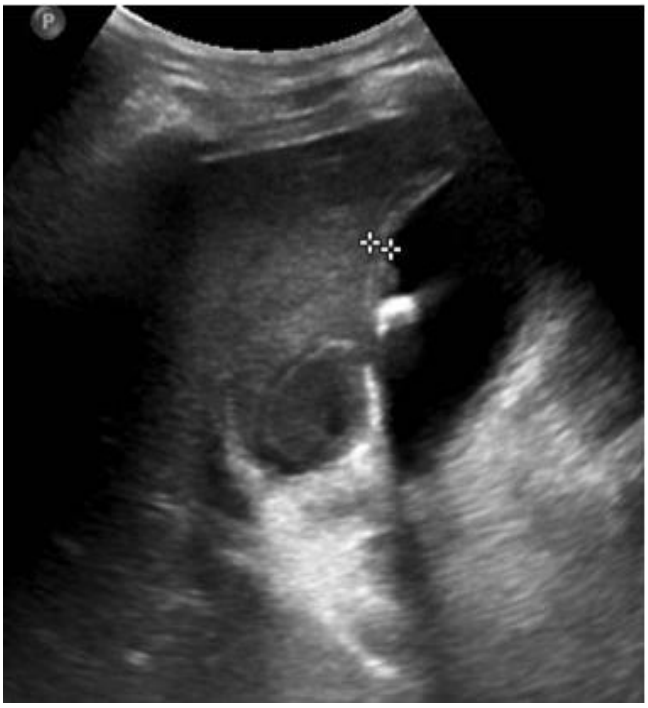

Figure1a: Ultrasound image showing gallbladder with thickened wall measuring approx. 3-4mm and a calculus of size 7-8mm.

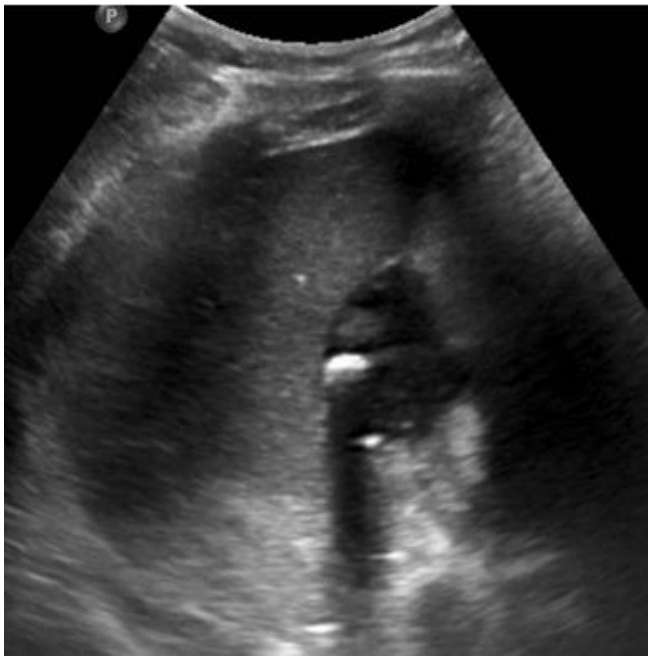

Figure 1b: Ultrasound image showing collection (15-20cc) with few extra luminal calculi (largest calculus measuring 8-9mm adjacent to gall bladder.

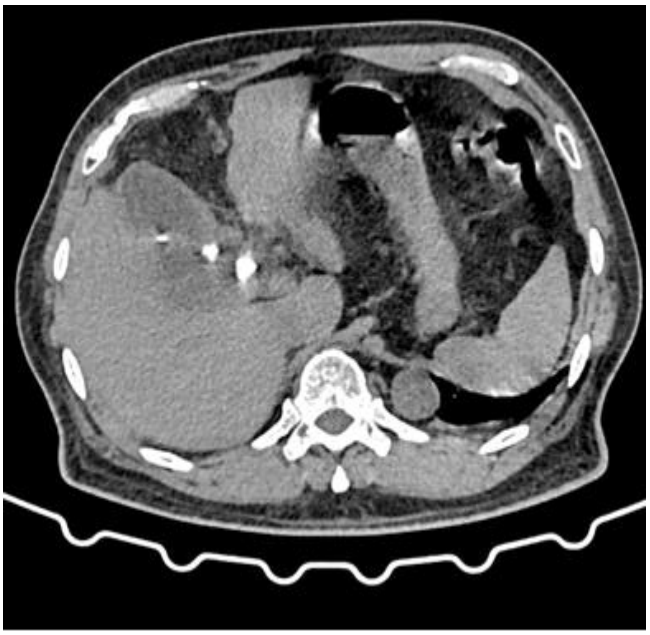

Figure 2: CT-Axial section showing gall bladder with thickened wall and a few intra luminal calculi. Adjacent hypodense collection with few extra luminal calculi also noted.

DISCUSSION

- Gall bladder perforations are rare, serious complication of acute cholecystitis and they represent the advanced stage of disease.
- Incidence has decreased from 15% in previous days to <1-2% today.
- Acute uncomplicated cholecystitis is more common in women whereas GBP is more common in men and usually occurs at an average age of 50-60yrs.
- It is also associated with comorbidities with diabetes, hypertension, immune suppression, atherosclerosis etc.
- Most perforations occur at fundus due to its less blood supply.
- Niemeier classification:
  A) Type1(acute)-spontaneous perforation with bile peritonitis.
  B) Type2(subacute)-Perforations with peri-cholecystic abscess formation
  C) Type3- chronic fistulisation between gall bladder and adjacent organs.
- GBP occurs as a result of acute cholecystitis.
- When the cystic duct gets occluded, retention of intraluminal secretion occur leading to gall bladder distension with consequent rise in intraluminal pressure. This impedes venous and lymphatic drainage causing vascular compromise followed by necrosis and perforation of gall bladder.
- USG remains as the first line imaging technique in diagnosing acute cholecystitis but it only exceptionally detects gallbladder mural defect as direct sign of perforation.
- Though CT is inferior to ultrasound in identifying gall stones, it is considered as the best technique for imaging complicated gall bladder conditions.

- Focal wall rupture is noted in 70% cases of gallbladder perforation whereas extraluminal calculi, free air, ascites are rare findings.
- Gall bladder perforation initially treated by percutaneous cholecystostomy.
- Patients should be given antibiotics and if required volume resuscitation also.
- Cholecystectomy, drainage of abscess if present, and abdominal lavage are usually sufficient in the treatment of gall bladder perforations.
- Complications include bile peritonitis, hepatic abscess, pelvic abscess, subhepatic abscess, pneumonia, pancreatitis etc.

CONCLUSION

Early diagnosis of gall bladder perforation and immediate surgical intervention are of crucial importance in order to reduce the mortality and morbidity.

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