

CASE REPORT

Dropped gall stones: an uncommon complication of an uncommon entity-silent gall bladder perforation: A rare case report

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ABSTRACT

Gall bladder perforation (GBP) is an uncommon complication and is usually associated with a high mortality due to delayed diagnosis and mostly requires urgent surgical intervention with the most common cause being acute cholecystitis.^[1] Malignancy has also been attributed as a causative factor in some cases^[2] with a single reported case of GBP secondary to chemotherapy and radiotherapy^[3]

This case report pertains to an interesting and complicated case of Type II GBP (Based on classification by Neimeier^[4]) secondary to adenocarcinoma of the gall bladder with formation of a perihepatic collection with multiple calculi in the perihepatic space.

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CASE REPORT

A 47-year-old female presented to the outpatient department of our institution with progressive icterus in February 2023. Ultrasound revealed cholelithiasis with asymmetrical circumferential thickening of gall bladder wall with mild dilatation of intra hepatic biliary radicals of both lobes and non-visualization of the primary confluence for which an immediate palliative antegrade biliary stenting was done which was followed up with a CECT of the abdomen which revealed asymmetrical thickening in the body and neck of gall bladder which was infiltrating segment IV B of liver and also involving the primary confluence and ultrasound guided fine needle aspiration from the gall bladder wall proved to be adenocarcinoma. Palliative chemotherapy was started with injection of cisplatin and gemcitabine and patient was placed on follow up.

In June 2023 the patient came to the outpatient department for next follow up with an additional complaint of dull aching pain in right upper quadrant with low grade fever and swelling and a subsequent, however the patient did not give any acute history or reported any sudden onset of pain in right upper quadrant in the past after her previous follow up visit.

Among the blood parameters, only TLC was mildly elevated – 13,000 μ L. CECT of the abdomen was done which revealed a distended gall bladder (Fig 1) with few defects in the GB, largest defect in the GB fundus region which was continuous with a small perihepatic collection (Fig 2) which was seen extending adjacent to the hepatic flexure and a diagnosis of Neimeier Type II GBP was given with impending communication with the transverse colon (Neimeier Type III). Ultrasound guided drainage of the perihepatic collection was done with continuation of chemotherapy and follow up with subsequent chemotherapy given in August, October and December 2023.

The patient was improving and was admitted to our institution in January 2024 for next cycle of chemotherapy and a CECT of the abdomen was done for assessing treatment response which showed that the gall bladder had been replaced with an ill-defined hypodense lesion with thin enhancing walls (Fig 4) and a residual perihepatic organized collection with no liquified content. All the gall stones which were seen in lumen of gall bladder in previous scans were seen in the perihepatic space (Fig 3 & 4)



Figure 1

Figure 2

Fig 1,2 : Scan done in June 2023 shows overdistended Gall bladder in Fig 1 with intraluminal calculi and White arrow in Fig 2 shows a defect in Gall bladder fundus with few extraluminal calculi with a subhepatic collection (red arrow)

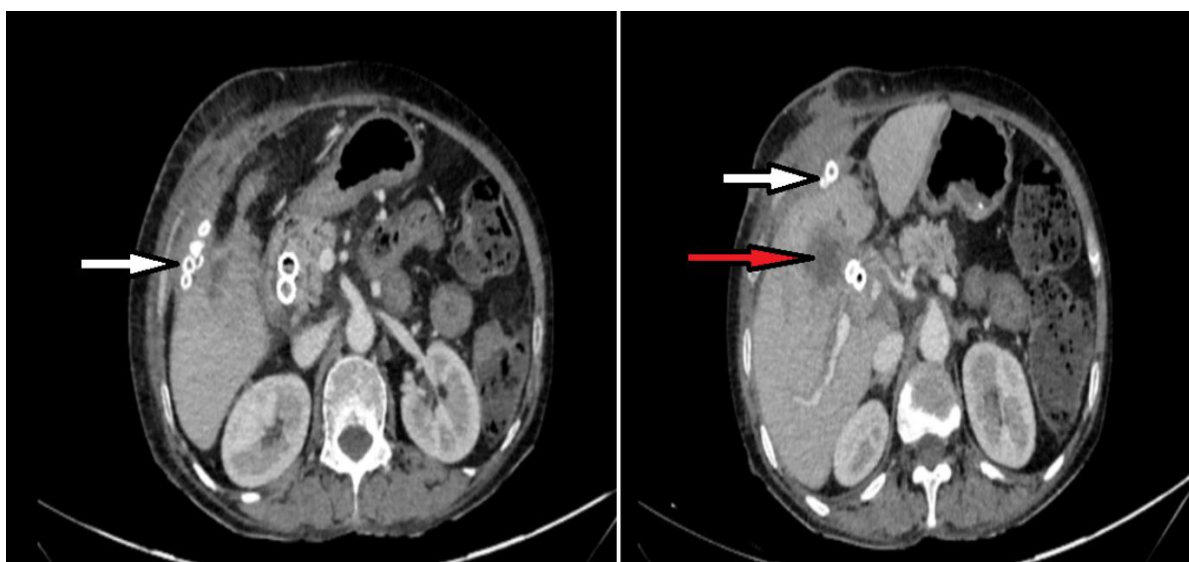


Figure 3

Figure 4

Fig 3,4: Scan done in January 2024 shows resolving lesion (Red arrow in figure 4) with multiple extrahepatic calculi in the perihepatic space

DISCUSSION

Gall bladder perforation is a rare complication of acute cholecystitis with an overall incidence of 2-11%^[5]. The process has been classified by Neimeier as Type 1 – acute free perforation into peritoneal cavity, Type 2 – subacute perforation with pericholecystic abscess, Type 3- chronic perforation with cholecystoenteric fistula.

Roselyn et al.^[6] had reported as Type 1 & Type 2 perforation being most common in patient <50 years of age which was also observed in our case. Dericiet al.^[7] in their case series had reported that fundus is the most common site (60%) due to the relatively poor blood supply relative to rest of the gall bladder hence

proving that ischemic mechanism has a role to play along with neoplasia and cholelithiasis being the risk factors^[8]. These were also observed in our case as the rent of approximately 1.5cm was seen in the fundus of gall bladder and two predisposing factors- cholelithiasis with carcinoma were present as the predisposing factors.

Post perforation changes on CT have been described into three separate categories by Tsai MJ et al.^[9] – First Category - Primary gall bladder changes which include wall thickening, wall enhancement, wall defect, intraluminal abscess and intramural gas. Second category - Pericholecystic changes which include fat stranding, pericholecystic fluid collection,

abscess/biloma formation and extraluminal stones and third category- findings in other organs which consist of inflammatory changes in liver segments adjacent to the gall bladder fossa, liver abscess, portal vein thrombosis &cholecystoenteric fistulas. Our case had both first and second category post perforation changes.

Perdosaet al.^[10] divided the signs of GBP into direct vs indirect signs with direct signs being defect in the gall bladder wall with extraluminal calculi and indirect sign abscess outside the gall bladder with thickening of the gall bladder wall. In our case both direct and indirect signs were present.

To conclude, GBP is a surgical emergency which is clinically missed due to its similarities with acute cholecystitis and is only diagnosed when there is high clinical suspicion after imaging. Our case represents a few atypical presentations, firstly the patient presented with only a dull aching pain and fever and had come for her regular follow up and had no acute presentation which is most often associated with GBP. Since the patient was on palliation and the pericholecystic collection was drained under ultrasound guidance with no further complaints, the surgeons did not consider the patient a candidate for post perforation cholecystectomy, we were presented with a un common entity- extrahepatic gall stones on imaging.

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