

# Spontaneous Gallbladder Perforation Presenting As Abdominal Wall Abscess

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## Abstract

A rare and unusual case of spontaneous gall-bladder perforation presenting with anterior abdominal wall abscess is reported. Most of the times, such cases present with cholecystocutaneous fistula due to delay in diagnosis, thus adding to the morbidity. The present case could be picked up early with expert sonological examination leading to prompt surgical intervention.

## CASE REPORT

A 65-year-old female presented with a one month history of pain in the right upper abdomen with off-and-on fever. She had developed a painful mass in the right upper abdomen one day ago. On examination, there was an intra-parietal lump in the right hypochondrium measuring 10x8cm, firm in consistency, mildly tender and with ill defined margins. On ultrasound examination, the gallbladder showed multiple stones with a large calculus in Hartman's pouch with irregularity and thinning of its wall in the fundus and with a minimal pericholecystic collection which communicated with a large collection in the anterior abdominal wall. Thus, diagnosis of cholelithiasis with gallbladder perforation into the anterior abdominal wall was made and the patient was hospitalized. All investigations including liver function tests were within normal limits.

On exploration through right sub-costal incision, the gallbladder was found to be distended with multiple stones in it. The fundus of gallbladder was adherent to the anterior abdominal wall. On dissection, a small perforation was found in the fundus region communicating with the abdominal wall through a narrow opening. Cholecystectomy was done and the laparotomy wound was closed. The abdominal wall collection was drained through a separate stab incision on the summit of the lump and it contained about 75ml of bile stained, purulent fluid. The cavity was irrigated and closed over a suction drain. The postoperative period was uneventful and the patient had a smooth recovery.

## DISCUSSION

Perforation of the gallbladder is an unusual complication of biliary tract disease and is often associated with cholecystitis and cholelithiasis. Perforation may be free into the peritoneal cavity or may result in a fistula between adjacent structures including the duodenum, colon or rarely the anterior abdominal wall leading to a cholecystocutaneous fistula<sup>1,2</sup>. The latter occurs most frequently in the right hypochondrium, although it has been described in the left subcostal and in the umbilical region, in the right flank and in the right iliac fossa<sup>3,4</sup>.

Although a rare entity today, spontaneous gallbladder perforation leading to cholecystocutaneous fistula secondary to gallstone disease was a common occurrence prior to routine abdominal surgery. The first recorded case was in 1670 and Courvoisier recorded more than 100 cases in 1890<sup>5</sup>. However, only a couple of cases have appeared in the literature during the previous half century<sup>6</sup>. The rarity of this occurrence today is probably due to early diagnosis of gallstone disease by ultrasonography, broad spectrum antibiotics and prompt surgical intervention.

The process of gall-bladder perforation and fistulisation starts with a stone obstructing the cystic duct. It causes a rise in pressure in the gallbladder leading to ischemic necrosis and perforation in the region of the fundus. The inflammation becomes walled off and a localized cholecystic abscess forms. The abscess may resolve, perforate into an adjacent viscus or penetrate the abdominal wall leading to parietal wall swelling<sup>7</sup>. The abdominal wall, due to its rich blood supply, is the least likely location in which a

perforation occurs<sup>8</sup>. This stage of parietal wall abscess is often missed and patients present with cholecystocutaneous fistula due to external rupture of the abscess<sup>2,5,6</sup>. In the present case, however, preoperative ultrasonography was able to confirm the diagnosis of gallbladder perforation with parietal wall abscess formation. It led to prompt surgical intervention and uneventful recovery in the postoperative period. The literature also recommends ultrasonography as initial imaging modality of choice for evaluation of emergent gallbladder pathology.

In conclusion, although gall-bladder perforation leading to parietal wall abscess followed by cholecystocutaneous fistula is a rare clinical entity today, the awareness of this serious complication of gallstone disease should lead to early surgical intervention, thus reducing morbidity in such cases.

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