

A SPONTANEOUS CHOLECYSTOCUTANEOUS FISTULA CASE AND ITS MANAGEMENT

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Abstract

Objective: Spontaneous cholecystocutaneous fistula is a rare complication of chronic calculous cholecystitis because currently gallstones are diagnosed and treated at an early stage. This occurrence is possible even if it seems actually to be rare.

Case Report: We report the case of a 62-year-old woman admitted to the Emergency Department with right hypochondrium pain, weakness. On physical examination, she had fever and discomfort of the upper right abdominal quadrant. Ultrasonography and Computed tomography scans revealed cholecystitis findings with the formation of an abscess. Percutan drainage of the purulent collection was carried out under ultrasound guidance. Cholecystectomy was performed after the patient's comorbid diseases were under controlled.

Conclusion: Owing to early diagnosis and treatment of gallbladder diseases, this condition is rarely seen nowadays. We conclude that percutaneous drainage is a safe and less stressful management technique, especially for elderly patients with co-morbidities before Cholecystectomy.

Key Words: cholecystocutaneous fistula, percutaneous drainage, ultrasonography, computed tomography

Introduction

Biliary fistulae are a rare complication of cholecystopathy. Cholelithiasis, cholecystitis, and bile duct malignancies have been implicated as etiologies of cholecystopathy. Biliary fistulae are divided into two groups, internal and external. The internal fistulae frequently involve the duodenum, colon, and mastoid. External fistulae are less common and were first reported by Thilesus in 1670 (1). Although more patients were reported before 1900, only 20 cases were reported in the last 50 years until 2006 (2). We believe that the reasons for this reduction are the easier diagnosis methods developed in recent years and the early treatment of patients before the onset of fistula formation. We report a case of a cholecystocutaneous fistula and percutaneous drainage of the abscess in a patient with calculous cholecystitis.

Case Report

A 62-year-old woman was admitted to the hospital owing to complaints of right hypochondrium pain, weakness, and fever (38°C). She was known to have cholelithiasis and diabetes mellitus. Computed tomography (CT) and ultrasound scans revealed a thickened gallbladder with calculi accumulated in the right anterior abdominal wall in line with the formation

of an abscess (Figure 1 and 2). In addition, there was a communication between the accumulation site and gallbladder on magnetic resonance imaging (Figure 3).

Blood examination revealed moderate leukocytosis (white blood cell count: 11,200/mm³; reference range: 4,200–9,000/mm³), a serum glucose level of 326 mg/dl (normal range, 70–125 mg/dl), a serum bilirubin level of 0.32 mg% (normal range, 0.7–1.1 mg%), a serum alkaline phosphatase level of 80 IU (normal range, 40–125 IU), and a serum CRP level of 0.66 mg/dl (normal range, 0–0.5 mg/dl).

In addition, percutan drainage of the purulent collection was carried out under ultrasound guidance. A total of 560 cc of purulent material was drained using the 10-French drainage catheter; this drainage continued for over 13 days. Initial treatment included local control of septic focus and broad-spectrum antibiotics administration. Serum glucose level and leukocytosis was normal on the 2nd day, but serum CRP level remained high until post-operation. The catheter was removed on the 15th day because there was no material from drainage catheter and there was no abscess on the CT (Figure 4). Laparotomy was performed on the 34th day by creating a right subcostal incision and exposing

the gallbladder. Histopathological analysis revealed chronic cholecystitis with no evidence of malignancy.

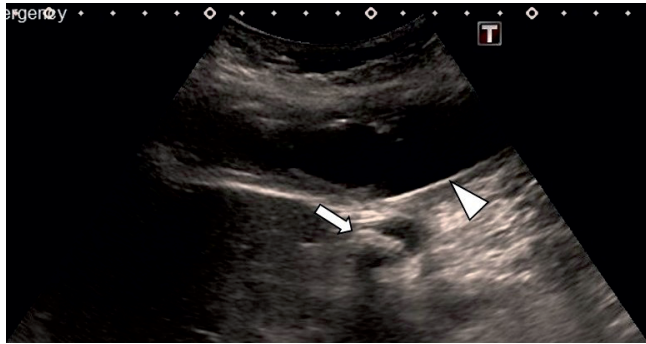


FIGURE 1. Transabdominal ultrasound image shows gallstone (arrow) and collection (arrowhead).

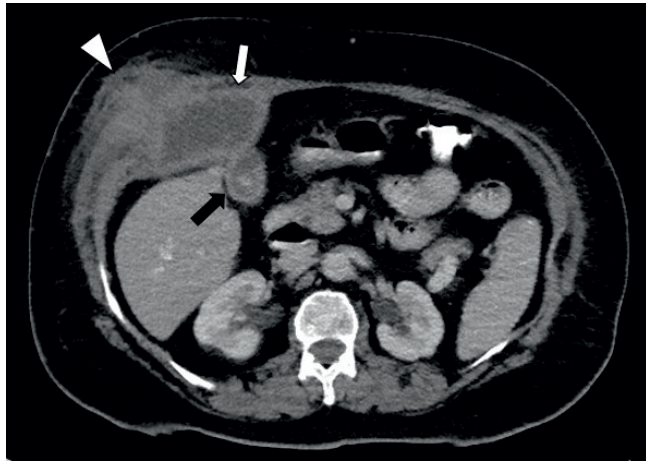


FIGURE 2. Contrast enhanced computed tomography of the upper abdomen demonstrates mural thickening (black arrow) of the gallbladder and abscess (white arrow) extending through the subcutaneous space (arrowhead).



FIGURE 3. Coronal reformatted magnetic resonance image demonstrates more accurately communication (thin arrow) between the gallbladder (thick arrow) and collection (arrowhead).

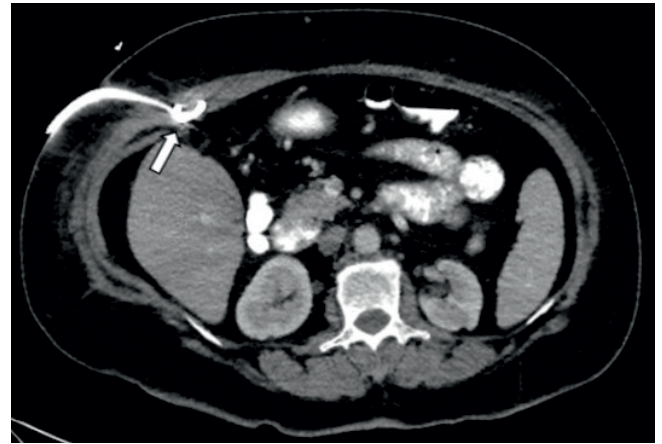


FIGURE 4. After percutaneous drainage of the collection, contrast enhanced computed tomography reveals absence of collection and catheter (arrow).

Discussion

Cholecystocutaneous fistula is a rare disease and generally iatrogenic owing to hepatobiliary surgery (1). A spontaneous fistula is usually caused by cholelithiasis. Owing to stone obstruction, intraluminal pressure increases and blood flow decreases; subsequently, mural necrosis and perforation occur. Perforated gallbladder may lead to localized abscess formation. An abscess may penetrate the anterior abdominal wall and may cause fistula formation. Niemier et al. described that chronic perforation would lead to fistula formation (3). Other causes of fistula formation, except for cholelithiasis, are cholecystitis and bile duct neoplasms. Patients usually present with right upper quadrant and right flank area pain and discharging sinus. Right hypochondrium is the most common site for an external opening; however, fistula opening may be observed in the left hypochondrium, umbilical region, right lumbar region, right iliac fossa and rarely in the gluteal region. Because of the higher incidence of gallbladder stones in women and unusual symptoms associated with cholecystitis in the elderly, the most commonly affected patient population consists of the elderly women (1,4).

Ultrasonography and CT are currently the best imaging modalities for diagnosing this complication. They inform other biliary tract pathologies and associated other pathologies. Fistula can be clearly demonstrated in 3D reformatted CT images. Magnetic resonance imaging (including magnetic resonance cholangio-pancreatography) and fistulogram may be useful for diagnosis but are usually not needed. Incidence of spontaneous cholecystocutaneous fistula has

significantly reduced over the last century owing to the availability of better diagnostic methods, efficacious antibiotics, and improved surgical management of gall stones and their complications (5).

The preferred initial treatment is abscess drainage with appropriate antibiotics. Subsequently, elective cholecystectomy with excision of the fistula tract has been suggested. Percutaneous cholecystectomy and laparoscopic cholecystectomy without excision of the fistula from the abdominal wall may be considered to be a preferable method for treating high-risk patients (6,7). Informed consent was obtained from patient before she was included in the study.

Conclusions

A possibility of cholecystocutaneous fistula should be suspected by clinicians and radiologists for early detection and management of this condition. Ultrasonography and CT are the radiological modalities of choice for the investigation/evaluation of the fistulous tract and associated complications. Spontaneous cholecystocutaneous fistula is initially managed with antibiotic therapy and abscess drainage.

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