

A Rare Case of Abdominal Wall Abscess containing gallstone secondary to Cholecystocutaneous Fistula



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Introduction

A 71 year- old female presents to ED for nonspecific abdominal pain and right side abdominal wall mass

A cholecystocutaneous fistula is an abnormal epithelial tract that allows communication between the gallbladder and the skin. In some cases the communication is spontaneous due to a complication of neglected gallstone disease or secondary to iatrogenic causes such as therapeutic percutaneous cholecystostomy. Spontaneous cholecystocutaneous fistula is a rare condition especially since the advent of prompt surgical treatment of gallbladder calculus disease.

Case Description

A 71-year-old female presented to the emergency department with a week long history of right sided abdominal wall mass with associated abdominal pain. She was afebrile and presented with large mass located in the right hypogastrium, with associated fluctuance, exquisitely tender and erythematous, warm, with no sign of drainage. She also had a soft large reducible ventral hernia. Abdominal CT revealed a large 15cm x 20cm fluid collection overlying right abdominal wall musculature. (Fig 1) Patient was started on broad spectrum antibiotics. Subsequently she underwent incision and drainage of right abdominal wall abscess. Once abscess was opened, purulent malodorous discharge drained. Irrigation was performed and heralded the passage of a 0.9cm dark brown hard nodule. One incision was made with two other counter incisions over abdominal wall abscess were made which after pulsatile lavage would be the location of the two penrose drain placements. Patient tolerated the procedure well with no postoperative acute events. Her abdominal wound continued to be locally changed daily.

Case Description

On postoperative day three, the patient had one penrose drain removed without complications. Patient was discharged and asked to follow up in the outpatient general surgery clinic. Pathology results revealed bile pigmented crystallin structure with surface acute inflammatory cells suggestive of biliary calculus. The stone in the collection did not initially appear to communicate with the intra-abdominal cavity. At the office visit patient appeared in no acute distress, with some tenderness at penrose site. This penrose drain was subsequently removed in the office visit without complication. Patient informed of pathology results and instructed to have a HIDA scan to evaluate gallbladder morphology and function and possible repeat of C T. Review of the CT scan reveals a residual tract showing possible area of communication between the fundus of gallbladder and the right abdominal wall. (Fig 2.)

Imaging

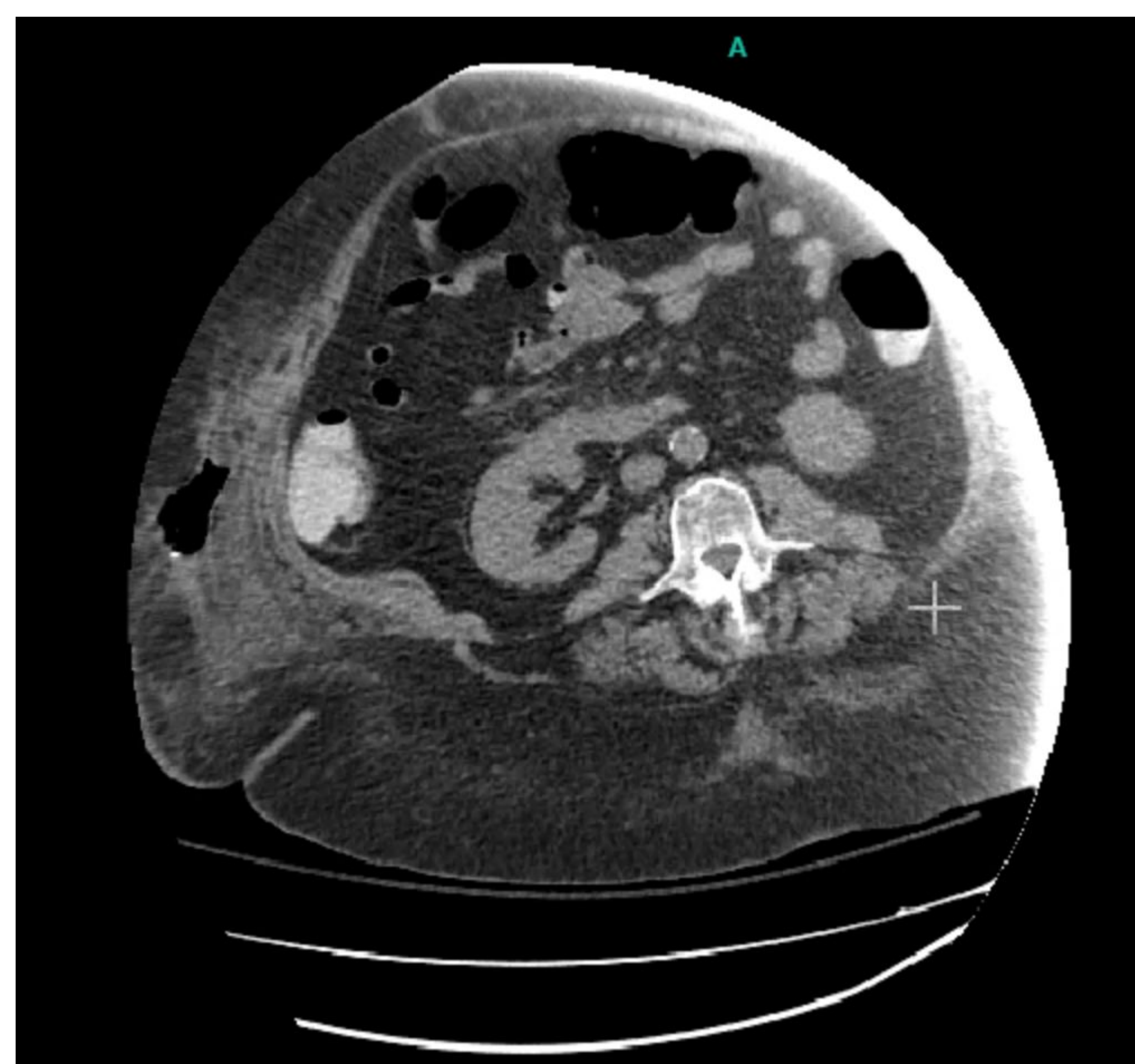


Figure 1. CT of abd/pelvis: 15cm x 20cm fluid collection overlying right abdominal wall



Figure 2. CT of abd/pelvis: previous cholecystocutaneous fistula tract to right abdominal wall

Discussion

A fistula is defined as a communication between two epithelial surfaces which can often result as a complication of a disease or surgical intervention. Cholecystocutaneous fistula was first described by Thilesus in 1670.¹ While rare, cholecystocutaneous fistulas are often a complication of neglected gallbladder disease.² The fistula usually occurs via fundus of the gallbladder and in this case has not progressed enough for fistula to have drainage onto the skin. In spontaneous cholecystocutaneous fistula, the abscess is walled off by the abdominal wall and eventually it progressively penetrates through the skin, and present as painless draining fistulas. The most common locations include right upper quadrant, right iliac fossa, umbilicus, right lumbar region, left lower quadrant.² Proposed pathophysiology suggest that when the gallbladder wall is inflamed and left untreated, it may start to necrose. Complete gallbladder wall necrosis results in leaking of bile into adjacent tissue such as the abdominal wall.² While cholelithiasis can be an underlying cause, a handful of reported cases include acalculous cholecystitis and carcinoma of the gallbladder as causative factors.³ Through similar mechanism of biliary outflow obstruction which increases intramural pressure and restricts perfusion, necrosis precipitates and gallbladder may perforate and drain into peritoneal cavity, adjacent viscera or rarely adhere to abd wall to form external fistula. With the increase in surgical treatment of the underlying pathology of gallbladder calculus disease the incidence of cholecystocutaneous fistula has fallen dramatically. A literature review of case published between 1961 and 2013 identified 50 cases.³ Diagnosis often proves challenging since a significant portion of patients with this complication present with non-specific symptoms and often have co-existing disease. Commonly, this will present in elderly females who do not have the classic symptoms of cholecystitis. Thus delays in presentation means the disease may be more advanced at initial presentation. In our case, the cholecystocutaneous fistula incidental finding after patient presented with large abdominal wall mass. Ultrasound is often the first modality of imaging if suspicion for gallstone disease is suspected but gallbladder fistula is better viewed with computed tomography scan. CT fistulogram can also help demonstrate fistula tract.² While the management of cholecystocutaneous fistula has not been clearly defined, an abdominal wall mass will initially require drainage of any associated abscess and administration of appropriate antibiotics. If underlying malignancy has been excluded, the next step is to follow patient for an elective cholecystectomy once patient is stable and optimized. An open cholecystectomy with excision of fistulous tract has been discussed to be the definitive treatment.² The majority of patients with this presentation are often elderly often with multiple associated comorbidities in which case perhaps a laparoscopic cholecystectomy or even percutaneous treatment with removal of GS could be considered in order to reduce morbidity. Unresectable disease would be indicated if there is suspicion of gallbladder cancer.

Conclusion

Although rare, this case helps us to consider the differential of cholecystocutaneous fistula in an elderly patient who previously had percutaneous treatment of acute cholecystitis or has recurrent episodes of cholecystitis. Such patients will need to ultimately be managed to underlying pathology and associated biliary tract diseases. The prognosis is generally good for the majority of patients with cholecystocutaneous fistula with complications arising in the elderly with underlying comorbid conditions.

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