

Case Report

Acute calculous cholecystitis complicated by a large anterior abdominal wall abscess

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ABSTRACT

We present a 74-year-old male patient with a rare case of acute calculous cholecystitis that was complicated by formation of a large anterior abdominal wall abscess due to neglect. The primary management consisted of antibiotic therapy and two consequent procedures of abscess drainage. Cholecystectomy was postponed due to the massive volume of the abscess which posed a great risk for complications if the patient were to be operated on at that point, therefore an elective open cholecystectomy was performed 3 months later. This case is a good example for the management of such a rare and interesting complication.

Keywords: Acute calculous cholecystitis, Abdominal wall abscess

INTRODUCTION

Abdominal abscess is a rare complication of acute cholecystitis, which develops consequently to gallbladder perforation.¹ In most cases the patient will experience malaise, fever, pain in the right upper quadrant (RUQ), nausea, vomiting and loss of appetite, as well as a visible mass in the abdominal wall as the abscess grows larger in size.^{2,3} The management involves antibiotic therapy, drainage of the abscess followed by cholecystectomy.⁴

CASE REPORT

A 74-year-old man was brought to the hospital by an ambulance with primary suspicions of an incarcerated abdominal wall hernia. He presented with abdominal pain in the RUQ, fever and malaise for 4 days, as well as fatigue and loss of appetite lasting 3 months and the patient admitted to having mild pain and tingling in the right leg for 7 days. There was a large mass with palpable infiltrate on the right side of the abdomen (Figure 1).

Abdominal contrast-enhanced computed tomography (CT) showed signs of acute calculous cholecystitis and a large abscess - 10×8.2×15 cm intraabdominally and 12×7.2×5 cm extraabdominally - with protrusion to the abdominal wall (to the right transverse abdominal muscle) and signs of a possible fistula connecting the gallbladder to the intraabdominal abscess (Figure 2). In addition, the CT showed signs of thromboembolism in right femoral artery. Contrary to this finding, there were no acute ischaemic changes in the leg.

The patient received antibacterial therapy with ceftriaxone and metronidazole. An incision, tamponade and drainage of the abscess was performed, during which 200 ml of pus were drained. Microbiological findings confirm the presence of *E. coli*.

Two days later a thrombectomy of the right common femoral artery was performed.

Although there was a rapid improvement in the patient's condition, follow-up abdominal CT showed a residual

perivesical abscess cavity, therefore one week later a percutaneous transhepatic abscess drainage was performed. Microbiological findings didn't show presence of bacteria. Postoperative period without complications.

5 days after the drainage abdominal ultrasound showed that the abscess had decreased in size to 0.8×5.7×2.5 cm and there was no free fluid visible. The patient was discharged from the hospital in a satisfactory condition.

3 months later the patient showed up for his follow-up appointment for elective cholecystectomy without any complaints or signs of acute inflammation. Abdominal CT with contrast showed a free fluid collection of 9 mm in the gallbladder region which communicated with a confined fluid collection in m. abdominis transversus dextra which was ~7.2×2.1×8.8 cm in size.

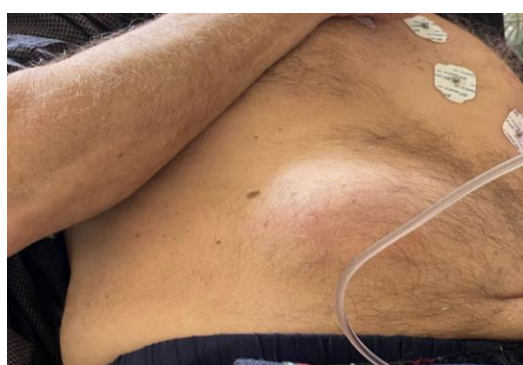


Figure 1: Visual and palpable infiltrate in the abdominal wall.

Right subcostal laparotomy, cholecystectomy and drainage of the subhepatic space were performed. During surgery the gallbladder revealed to be surrounded with massive adhesions and, when the fundus was separated from the abdominal wall, an old remnant abscess was revealed, containing cloudy content. In the lumen of the gallbladder there was a cholesterol-protein stone ~1.5 cm in size. Samples were taken and microbiological findings didn't show any presence of bacteria. The post-op period was without complications and after a week the patient was discharged from the hospital in a satisfactory condition.

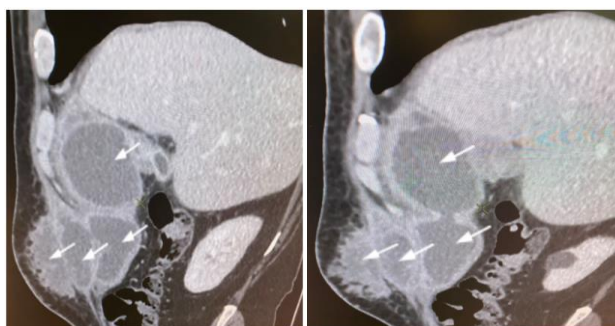


Figure 2: Abdominal CT in LL projection, massive abscess (white arrows).

DISCUSSION

Formation of the large anterior abdominal wall abscess is a rare complication of acute cholecystitis which occurs subsequently to gallbladder perforation. Of all acute calculous cholecystitis cases about 10% result in gallbladder perforation, which consequently leads to abscedation or fistulisation, however, the development of an abscess of such measures as in our case is a rarity.¹

These complications are more common in elderly men and usually develop in neglected cases with late diagnosis, and are often associated with the presence of bacteria, usually polymicrobial flora, mainly consisting of *E.coli*.²

The preferred diagnostic tool for acute cholecystitis is abdominal US, which allows to visualize gallstones as well as signs of gallbladder inflammation. It is also a useful tool in complicated cases, e.g. formation of the abscess can be detected early using abdominal US.^{5,6} In unclear or difficult cases, such as ours, an abdominal CT scan can provide more detailed information.⁶

In most cases of gallbladder perforation the optimal treatment option is cholecystectomy. However, if a patient is at high surgical risk, placement of a percutaneous, transhepatic drainage tube combined with the administration of antibiotics may provide definitive therapy. This may also serve as a temporary solution until the patient is able to undergo cholecystectomy.^{4,7,8,10} In our case the abscess was extremely large, and there was a potentially high risk for post-operative complications – e.g. severe perivesical infiltration after abscess drainage was expected, therefore it was decided to use a step-up approach, which consisted of broad-spectrum antibiotic therapy and two consequent procedures of abscess drainage followed by an elective cholecystectomy 3 months later.

There are different opinions on whether laparoscopy or laparotomy is the preferred approach - it depends on the difficulty of the case, the patient's age and comorbidities, as well as the abilities of the medical staff.^{3,5,9}

CONCLUSION

This case is great example of how to manage a patient with an abdominal wall abscess that has formed as a complication of an acute cholecystitis. The medical team immediately chose the most optimal diagnostic method, which allowed them to promptly assess the patient's condition and choose the correct course of therapy to be applied. This case serves as a reminder that chronic cholecystitis shouldn't be left untreated, especially in elderly patients, as it can result in serious complications.

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