Case Report

DOI: doi.org/10.47363/AMR/2015(3)131

External biliary fistula presenting as anterior abdominal wall abscess – a rare presentation in modern surgical practice

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Received: June 07, 2015
Accepted: July 12, 2015
Published: July 07, 2015

ABSTRACT

Cholecystocutaneous fistula is a rare complication of cholecystitis. We report a case of a 75-year man who presented with features of anterior abdominal abscess, which on further exploration was diagnosed to be an external biliary fistula. This case illustrates that any cutaneous abscess in the right hypochondrium should be viewed with caution and investigated thoroughly.

KEY WORDS: Cholecystocutaneous fistula; Acute cholecystitis; Biliary fistula; Empyema; Abdominal Wall abscess.

INTRODUCTION

Cholecystocutaneous fistula is very rare in modern day surgical practice. One of the rarest complications of acute cholecystitis, fewer than 25 cases have been reported over the past 50 years [1]. We present here a case of an anterior wall abscess secondary to spontaneous cholecystocutaneous fistula.

CASE REPORT

A 75-year non-diabetic male presented with complaints of pain and swelling over right upper quadrant of abdomen associated with fever. On examination, the patient was febrile (Temperature of 38 °C) and abdominal examination revealed features of parietal wall abscess over right upper quadrant. Incision & drainage was done for abscess of anterior abdominal wall, and as the patient continued to remain toxic, it was followed by antibiotic therapy according to sensitivity. On the 3rd postoperative day stones were observed in the wound cavity. An abdominal Ultrasonography (USG) followed by a Computed tomography (CT) scan was performed. USG revealed gallstones with a thick walled gallbladder alongwith pericholecystic collection. CT scan revealed a contracted thick walled gallbladder with multiple hyperdense calculi with internal lucency and soft tissue thickening with internal fluid density in pericholecystic region inseparable from the fundus of the gallbladder extending into the anterior abdominal wall with thickened overlying anterior abdominal wall. Magnetic resonance imaging (MRI) abdomen with Magnetic Resonance Cholangiopancreaticography was performed which was suggestive of a pathological gallbladder showing localized perforation in the fundus with a parietal wall collection and surrounding poorly marginated edema/fluid which appeared to extend up to the skin surface in the subcostal region with a calculus within the parietal wall component. The patient was managed conservatively and planned for elective cholecystectomy, as we wanted the inflammation to get resolved completely. The patient underwent open cholecystectomy with excision of the fistulous tract after 6 weeks with an uneventful recovery. Histopathological report revealed chronic cholecystitis with fistulous tract consisting of chronic inflammatory tissue, islands of benign hepatocytes, gallbladder glandular tissue and prominent bile pigments. No malignant tissue was seen in the sections.

DISCUSSION

Cholecystocutaneous fistula, an abnormal communication between gallbladder and skin, was first described by Thilesus in 1670 [2]. Spontaneous fistula are usually a complication of neglected gallstones causing perforation, which either drain freely into the peritoneal cavity or becomes adherent to the anterior abdominal wall. The external opening is commonly in the right upper quadrant, although fistulization in the left upper quadrant, periumbilical, lumbar and gluteal region are described [3]. Courvoisier documented 499 cases of gallbladder perforation in the late 19th century; 169 of these cases formed cutaneous tracts. In their review in 1949, Henry & Orr found 36 cases of external biliary fistulae reported after 1890 [4]. Cholecystocutaneous fistula is noted in the literature but is still extremely uncommon, with only around 22 cases described over the last two decades or so [1]. Cholecystocutaneous fistula is almost always as a result of neglected biliary tract disease. Patients are usually women over the age of 60 years, the female preponderance is most likely due to higher incidence of cholecystitis in women than in men [4].

The pathophysiology of this condition involves the obstruction of the cystic duct, most commonly due to calculi and rarely due to gallbladder carcinoma [5]. These fistulae usually arise from the fundus of gallbladder [6]. The state preceding spontaneous rupture has been termed as Empyema necessitans by Nayman [7]. Increased intraluminal pressure in the gallbladder secondary to calculous obstruction is thought to impair blood flow and lymphatic drainage, thereby leading to mucosal necrosis and perforation, which can either be acute or indolent process. A chronic perforation can lead to an internal or external biliary fistula and these arise most commonly from the fundus of the gallbladder.

Spontaneous perforation of calculous cholecystitis to abdominal viscera is not uncommon, particularly to the duodenum and colon, and it has also been seen in the bronchial tree, stomach and urinary tract [7,8]. Rarely other etiologies such as spilled gallstones following laparoscopic cholecystectomy and malignancy have to be considered [8].

The possibility of cholecystocutaneous fistula should be considered in any patient who has a discharging sinus in the right upper quadrant or chest wall. A fistulogram can make a definitive diagnosis of this complication and thus reduce the morbidity via prompt cholecystectomy and excision of fistula tract [5]. USG and CT imaging can also help in the diagnosis of this complication. In our case, we initially drained the abscess, and did an interval elective cholecystectomy with excision of the fistulous tract as we wanted the inflammation to settle down.

Management of cholecystocutaneous fistula should initially include control of any acute inflammatory process. Treatment should include broad-spectrum antibiotics, drainage of abscess and elective surgery. Surgically, the fistula tract can be laid open with removal of any gallstones present, a cholecystectomy should also be done [8]. An elective cholecystectomy is advisable in these patients. An open approach is usually favored, although a laparoscopic technique has also been described [5].

CONCLUSION

Abdominal wall abscess secondary to external biliary fistula is a very rare occurrence in current surgical practice, however any cutaneous abscess in the right hypochondrium should be viewed with caution and investigated thoroughly. USG is a simple investigation that can help in its early diagnosis and management.

ACKNOWLEDGEMENTS

None

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Source of Support: Nil, Confl ict of Interest: None declared