Case report

Spontaneous cholecystocutaneous fistula

H S Flora and S Bhattacharya

Department of General Surgery, Barts and the London NHS Trust, The Royal London Hospital, London, UK

Background

An external biliary fistula is a rare complication of gallstone disease. We present a case of cholecystocutaneous fistula successfully treated with excision and cholecystectomy.

Case outline

A 67-year-old man presented with a persisting discharge from what was thought to be an ‘abscess’ in the right hypochondrium, which had previously been incised and drained.

Results

Investigation with computed tomography, ultrasound scanning and sinography demonstrated a cholecystocutaneous fistula and calculous cholecystitis. The fistulous track was excised together with the gallbladder.

Discussion

This condition is rarely seen nowadays due to the greater availability of antibiotic therapy and biliary surgery. Cholecystectomy is the preferred treatment, although in a few patients, the fistula may close spontaneously.

Keywords

external biliary fistula, cholecystocutaneous fistula, gallstones.

Introduction

Thilesus first described an external biliary fistula in 1670. Courvoisier reported 169 cases in the nineteenth century [1]. However, since 1900 just 65 cases have been reported [2], and only 15 in the last 50 years [3]. The condition has changed from being a complication of suppurative cholecystitis to being caused by trauma, which is usually operative [4]. The rarity of external biliary fistula stems from improved diagnostic investigations such as ultrasound scans and the greater availability of treatment in the form of antibiotics and biliary surgery. We report a case of a cholecystocutaneous fistula in a patient with previously undiagnosed gallstone disease.

Case report

A 67-year-old Asian man presented with a subcutaneous abscess in the right hypochondrium. He was known to have hepatitis C cirrhosis causing portal hypertension and ascites. Physical examination revealed jaundice, cachexia and ascites. Both computed tomography (CT) and ultrasound scans showed cirrhotic changes to the liver with a thickened gallbladder containing calculi. In addition, there was a complex collection in the right anterior abdominal wall in keeping with an abscess.

The abscess was incised and drained under local anaesthetic. Microbiological culture of the pus grew coliforms, and a course of intravenous cefuroxime and metronidazole was given. A subsequent sinogram showed a 1 cm sinus without any communication into the peritoneal cavity. The abscess slowly healed and the patient was discharged.

He presented again 2 weeks later with a persisting discharge from the previously drained abscess and reaccumulation of the ascites. A repeat CT scan showed similar appearances to those previously observed, but a repeat sinogram now revealed the presence of a cholecystocutaneous fistula (Figure 1).

At laparotomy a fistula track was found. The track was excised and open cholecystectomy was performed; the gallbladder was sessile. After the gallbladder was removed, a defect was noted in the lateral wall of the common bile duct. The defect was closed primarily and a subhepatic drain was left in situ. The patient made a slow but uncomplicated recovery. Histological examination of the gallbladder showed both acute and chronic inflammation, without evidence of malignancy or tuberculosis.
Discussion

Biliary fistulas can be either internal or external. Internal fistulas are very much commoner, 75% of them connecting to the duodenum and 15% to the colon. The remaining 10% of internal fistulas connect with the stomach or jejunum, or have multiple communications such as cholecystoduodenocolic fistula [5]. External biliary fistulas are rare. They usually complicate gallstone disease, but can occur secondary to biliary injury during a surgical procedure [4], cholangiocarcinoma [6] and other traumatic causes [7]. The external opening of a cholecystocutaneous fistula is generally in the right hypochondrium. However, other sites can be involved such as the left hypochondrium (45%), the umbilicus (27%), the right lumbar region, the right iliac fossa [1] and the gluteal region [8].

A fistula such as this one is an end result of perforation of the gallbladder secondary to acute calculus cholecystitis. Perforation of the gallbladder can also occur, albeit rarely, in the absence of gallstones [2]. Two cases of combined internal and external fistulas have been described, communicating in each case with the duodenum [9,10]. The typical presentation of a persistent discharging sinus should suggest the diagnosis, particularly in an elderly patient with a previous history of gallstones or jaundice [2]. Our patient was known to have hepatitis C but not gallstones. The radiological evidence was equivocal at the initial presentation. It was only at re-admission that the repeat investigations confirmed the diagnosis.

The management of an external biliary fistula clearly depends on the underlying aetiology. The acute phase requires treatment with adequate antibiotics, analgesia and resuscitation. In a proportion of patients the external biliary fistula will heal spontaneously, and therefore operation may be avoided if the patient is elderly or debilitated. Possible surgical options include cholecystostomy with removal of the gallstones or cholecystectomy. As cholecystostomy carries the possibility of further stone formation in the gallbladder, cholecystectomy is usually the treatment of choice.

References


Figure 1. Repeat sinogram showing the presence of a cholecystocutaneous fistula.