

Case Report

# Complete laparoscopic management of cholecystocutaneous fistula.

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## INTRODUCTION

Cholecysto-cutaneous fistula is very rare in modern day surgical practice and is usually dealt with by open surgery. The incidence has decreased due to prompt and early surgical management of patients with acute cholecystitis. Although 10% of patients with acute cholecystitis can develop spontaneous perforation of the gallbladder, cholecysto-cutaneous fistula is one of the rarest presentations<sup>1</sup>. As it is more common in elderly patients, an open procedure does increase morbidity in these patients. We report a 76 year old lady with a cholecysto-cutaneous fistula that was managed laparoscopically.

## CASE REPORT

A 76 year old lady who was overweight, diabetic and hypertensive, presented with acute cholecystitis. She declined surgery but subsequently continued to have symptoms related to her gallbladder problem. A computerised tomography scan showed thick fluid around the area of the gallbladder fundus and segment 4b of the liver going into the right rectus sheath and subcutaneous tissues (fig 1). She developed an abscess on the anterior abdominal wall which later burst (fig 2). She was subsequently booked for laparoscopic cholecystectomy

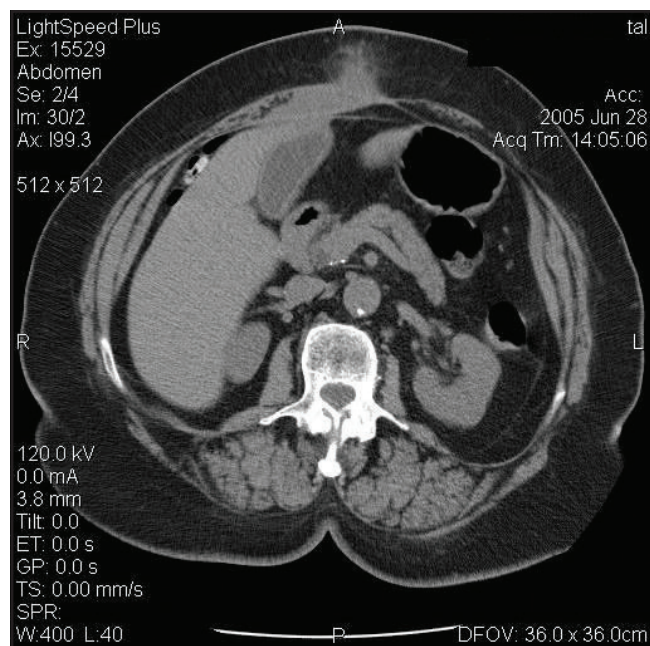


Fig 1. CT scan showing cholecystocutaneous fistula



Fig 2. Photograph showing location of fistula on anterior abdominal wall

and excision of fistula. First a standard umbilical camera port was placed away from fistulous area followed by a lateral abdominal port on the right side to assess for suitability for laparoscopic dissection before inserting other standard epigastric and right mid-clavicular ports. The fistula was dissected from anterior abdominal wall followed by gall bladder removal. The fistula was not excised. The patient recovered well after the procedure and was discharged home.

## DISCUSSION

Thilesius in 1670 first described the spontaneous cholecysto-cutaneous fistula. Courvoisier in 1890 described a series of 499 patients with perforation of gall bladder in which 169 patients developed cholecysto-cutaneous fistulae<sup>2</sup>.

A cholecysto-cutaneous fistula develops as a result of acute cholecystitis. Perforation usually develops in the fundus due to less vascularisation. Once perforation occurs, it may either drain freely into the peritoneal cavity or become adhered to adjacent structures like the duodenum, colon or liver which may sometimes result in a fistula between gallbladder and bowel. Rarely the gallbladder becomes adherent to the abdominal wall and results in the formation of cholecysto-

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cutaneous fistula<sup>3,4</sup>. Typically a fistula presents as a draining sinus in the right upper quadrant of the abdomen although its presence has been reported in the umbilicus, the left sided costal margin, right iliac fossa, right groin, anterior chest wall and in the gluteal region<sup>5</sup>. In modern day practice, due to the prompt management of acute cholecystitis with antibiotics and early cholecystectomy, a cholecysto-cutaneous fistula has become very rare unless there is delay in diagnosis, or the patient has severe comorbidity posing high risk for anaesthesia. Rarely a patient may refuse surgery until a complication occurs as in our case. Diagnosis may either be evident as it may discharge bile and gall stones or may be difficult as it may just drain pus.

The diagnosis can be either made early in its course of development when only an abscess can be demonstrated by ultrasonography as a sonolucent mass with echogenic material adjacent to the anterior abdominal wall. A CT scan may better delineate the abscess and may demonstrate a fistula as well once it has developed (fig 1). A fistulogram may sometimes be needed to demonstrate the origin.

Management of a cholecysto-cutaneous fistula involves institution of broad-spectrum antibiotics, incision and drainage of the sinus abscess and sending samples for culture and sensitivity. Once the acute phase is over, an elective cholecystectomy and excision of fistula is performed usually by open operation<sup>6</sup>. Since these patients are usually elderly with some co-morbidity, an open operation does increase risks

in these patients. Laparoscopic approach decreases the stress associated with surgery if the proper expertise to perform the operation is available.

### CONCLUSION

Laparoscopic approach to cholecysto-cutaneous fistula is safe and associated with fewer risks to patients. We recommend this approach especially for patients with other co-morbidities.

The authors have no conflict of interest.

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