

Case Report

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A rare case of peritoneo-cutaneous fistula after laparoscopy converted to open failed cholecystectomy: meticulously managed by laparoscopy

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ABSTRACT

Peritoneo-cutaneous fistula can occur following cholecystectomy due to leftover stones. However, cholecysto-cutaneous fistula has been found to be associated with complication of acute cholecystitis. But never before a fistula associated with abandoned cholecystectomy without spillage of stone have been described in literature. We describe a case report of a 25-year-old female presented with right upper quadrant serous discharge from a previous incision site for the past 8 months. The patient had a history of failed cholecystectomy one year back. The patient was evaluated radiologically with computed tomography sinogram and magnetic resonance cholangiopancreatogram (MRCP) and found to have a tract communicating with subcutaneous tissue and gallbladder fossa with normal gallbladder anatomy and a single calculus. The patient was managed laparoscopically. Laparoscopic cholecystectomy was performed successfully with excision of peritoneo-cutaneous fistula tract. All difficult and failed cholecystectomies should be attempted at high volume surgical centres by an experienced laparoscopic surgeon only.

Keywords: Peritoneocutaneous fistula, Cholecysto-cutaneous fistula, Difficult cholecystectomy, Failed cholecystectomy, Abandoned cholecystectomy, Redo cholecystectomy

INTRODUCTION

Peritoneo-cutaneous or bilio-cutaneous fistula in patients with gallstone disease is usually rare but a known entity. It is usually seen in patients with either leftover stone in the abdominal cavity after cholecystectomy or following percutaneous intervention.^{1,2} Sometimes it can be seen in complicated gallstone disease also. This case report presents a rare cause of peritoneo-cutaneous fistula with an intact gallbladder following failed laparoscopic converted to open cholecystectomy and role of laparoscopy in the management of such cases in a high volume centre.

CASE REPORT

A 25-year-old female presented with complains of right upper quadrant pain and discharge from the previous

surgical site in right hypochondrium for the past one year (Figure 1). The patient underwent laparoscopic converted to open failed cholecystectomy for cholelithiasis in a district hospital 8 months ago. In view of difficult anatomy and dense adhesions, the procedure was abandoned without dissection. After 20 days of surgery patient developed serous discharge from the right lateral part of the surgical wound along with dull aching pain in the right upper quadrant. There was no surgical site infection or any other associated complaint. The patient was managed conservatively. The patient had on and off discharge from the surgical site for the past 8 months.

The patient was evaluated and her routine blood investigations were found to be within normal limit. Further evaluation was done using ultrasonography of abdomen, computed tomography (CT) sinogram and magnetic resonance cholangiopancreatography (MRCP).

Ultrasound was suggestive of a hypoechoic linear tract seen coming from the gallbladder fundus and reaching up to skin likely cholecysto-cutaneous fistula along with a calculus 10×12 mm in the gallbladder. CT sinogram (Figure 2) of the abdomen suggested the presence of a tract communicating with subcutaneous tissue and gallbladder fossa. However, MRCP showed normal biliary anatomy and no communication of the fistulous tract with the gallbladder or biliary tract could be visualized.



Figure 1: Right subcostal scar with opening of fistula tract.

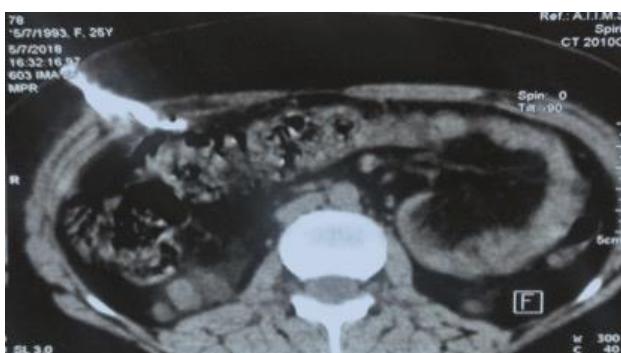


Figure 2: CT sinogram showing peritoneocutaneous fistula tract.



Figure 3: Intra-operative image showing peritoneocutaneous fistula with dense adhesions.

The patient was planned for elective diagnostic laparoscopic exploration under general anaesthesia. On

diagnostic laparoscopy, dense adhesions of omentum were seen to the parietal wall and fundus of gallbladder. Careful dissection and adhesiolysis was performed. The fistula tract was found to be reaching up to the abdominal cavity into the adherent omentum with no extension into the gallbladder or biliary tract (Figure 3). Dense adhesions were noted at the Calot's triangle. Cholecystectomy was performed via fundus first approach. Fistula was excised in-toto. There was no evidence of any stone or foreign body in the fistula tract. Subcutaneous and gallbladder fossa drains were placed.

Post-operative course was uneventful and the drain was removed on post-op day one. Histopathology report showed features of chronic cholecystitis and specimen of the fistula tract revealed evidence of chronic inflammation. The patient is asymptomatic postoperative period and on regular follow up in outpatient clinic for last 4 months following surgery.

DISCUSSION

Complications during cholecystectomy like gallbladder perforation and spillage of bile and stone is not rare. Though the occurrence of gallstone spillage is documented as between 5%-40% of laparoscopic cholecystectomy cases, the sequelae of spilled gallstones are usually rare, and seen only in 0.08%-0.3% of patients.³ Complications like abdominal abscess, chronic discharging fistula or peritoneo-cutaneous fistula due to lost stone are documented complications of lost stones during cholecystectomy.² On the other hand, abdominal wall abscess or cholecysto-cutaneous fistula are the other groups of complications that are usually seen in preoperative patients of gallstone disease with intact gallbladder due to complication of the disease itself.

Intra-abdominal abscess is the commonest reported complication following spillage and lost stones, with a mean incidence of 0.1–2.9% in patients with spilled stones.² Spillage of gallstones can occur either during dissection or at the time of retrieval of specimen. Spilled stones should be meticulously retrieved. However, there is controversy regarding the need for conversion to open procedure for retrieval of spilled stones, as the incidence of developing complications is extremely low. Time of presentation of the patients with missed or retained stones following surgery can vary. Late presentations of patients, several weeks following surgery, have been documented in the literature.³ Wound infections, parietal abscess with chronic discharging fistulae are the other common presentations of the patients with spilled stones. Fistulization has also been documented and usually occurs as colo-cutaneous or biliary-cutaneous fistula.^{1,3,4}

Though rare, peritoneo-cutaneous fistula has also been documented following spilled stones. Kumar et al has reported one such case in 2017 where the patient has spillage and presented 8 months following index surgery.⁴ Our case had similar presentation but in our

case there was no spillage, as gallbladder was intact and cholecystectomy was aborted in view of difficult cholecystectomy in a district hospital initially. Incidence of abdominal wall abscess due to gallbladder rupture, bilio-cutaneous fistula with intact gall bladder due to inflammation and adhesion of fundus with the anterior abdominal wall, has already been documented in literature but no case of peritoneo-cutaneous fistula formation with intact gallbladder has been documented so far.^{5,6} This group of patients needs proper preoperative evaluation of the disease. Initial workup needs the use of ultrasonography followed by CT sinogram to establish the length of the tract and its extent.⁶ MRCP should also be done to evaluate the biliary anatomy. The definitive management includes cholecystectomy and excision of tract in-toto.^{6,7} An open approach is usually favoured in such cases of difficult and previously failed cholecystectomy. Laparoscopic approach has also been described in literature. Reattempt surgery should be done by an experienced laparoscopic surgeon only. Malik et al has described a laparoscopic approach to such difficult cholecystectomy.⁸ To conclude, all the patients who have history and imaging suggestive of a predictable difficult cholecystectomy should be referred to a high volume centre and should be operated by an experienced laparoscopic surgeon only.

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