International Surgery Journal
Alqunai MS et al. Int Surg J. 2017 Aug;4(8):2823-2825
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20173427

Case Report

Acute cholecystitis with Cholecystocolic fistula: a case report and pertinent literature review

Mansur S. Alqunai[1]*, Mahmoud Abdul-Kareem Daif-Allah[2], Loai Alhammad[3]

[1]Faculty, Department of General Surgery, Ministry of Education, Saudi Arabia
[2]Department of General Surgery, King Fahad Specialist Hospital, Saudi Arabia
[3]Department of Radiology, King Fahad Specialist Hospital, Saudi Arabia

Received: 11 June 2017
Accepted: 08 July 2017

***Correspondence:**
Dr. Mansur S. Alqunai,
E-mail: m.alqunai@gmail.com

ABSTRACT

Cholecystocolic fistula (CCF) is a rare late complication of gallstones. The clinical features of CCF are nonspecific and variable. No single test is sufficient to diagnose CCF because of the low sensitivity of the tests or the invasive nature of the procedures, and these tests are not routinely requested for asymptomatic patients. Because CCF is rarely diagnosed preoperatively, patient history, laboratory, and radiological data play an important role in alerting surgeons to the possible existence of a CCF. Treatment involves closing the fistula and performing an open or laparoscopic cholecystectomy.

Keywords: Cholelithiasis, Cholecystectomy, Cholecystoenteric fistula

INTRODUCTION

A 40-year-old woman presented to the emergency department of our hospital with right upper quadrant abdominal pain that she was experiencing for 3 days.

The pain was recurrent, radiated to the right flank and shoulder, and was accompanied by chronic diarrhea and flatulent dyspepsia. The patient had similar symptoms 5 months before, and she was admitted to another tertiary hospital where she was diagnosed with acute cholecystitis.

At that time, a percutaneous cholecystostomy was performed and she was discharged. Further, she had a history of open appendectomy that was performed 20 years ago and had undergone right modified radical mastectomy and chemotherapy 4 years ago for breast cancer. She was taking insulin for diabetes.

CASE REPORT

On examination, she was afebrile and had tenderness in the right hypochondrium. Apart from revealing hyperglycemia and moderate hypoalbuminemia, the findings of a routine blood chemistry test were normal. A complete blood count showed mild leukocytosis. Abdominal ultrasonography revealed a mildly enlarged liver and a dilated CBD (0.9 cm) but no intrahepatic biliary duct dilatation; further, the gallbladder was contracted over several small stones and was tender on propping. Three hypoechoic lesions were noted in the right lobe, with the largest measuring 2.5×2.3 cm. Abdominal computed tomography showed that the gallbladder was not distended, the fundus was adhered to the hepatic flexure of the colon, and the contrast medium passing from the colon into the gallbladder, suggestive of a cholecystocolic fistula (CCF) (Figure 1). The CBD was mildly distended, measuring up to 0.9 cm. The liver was

enlarged and had several hemangiomas. Therefore, a diagnosis of acute cholecystitis with CCF was made.

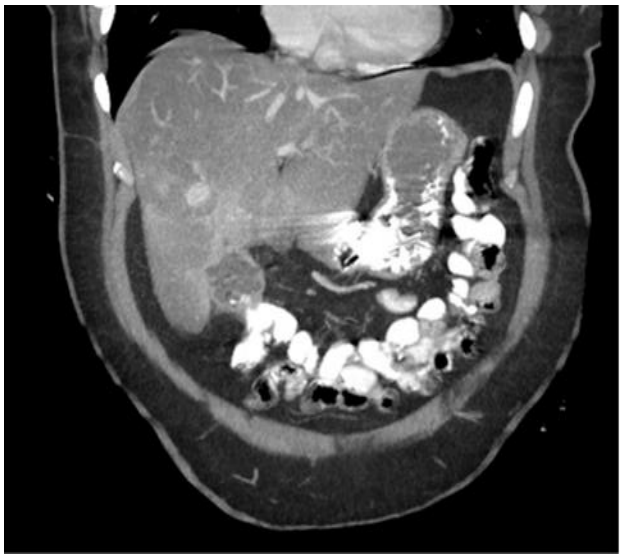

Figure 1: Axial abdominal computed tomography scan in portal venous phase after administration of oral contrast demonstrates fistulous communication between the gall bladder and hepatic flexure. The enteric contrast is noticed in the GB lumen.

Because of the previous appendectomy, cholecystectomy, and the presence of a CCF, an open approach was deemed more feasible. Via a right subcostal incision, the abdomen was opened and the dense omental adhesion around the gall bladder was carefully dissected. The fistula tract was palpable (Figure 2). It was dissected and divided at the colonic end by using a GIA stapler. Routine cholecystectomy was performed (Figure 3).

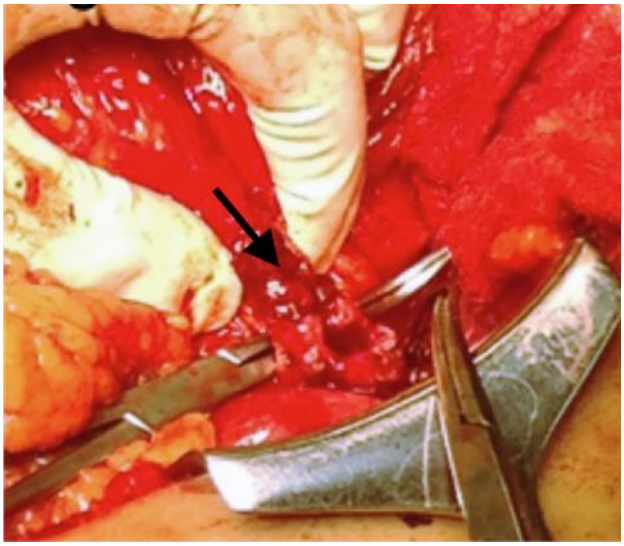

Figure 2: Intraoperative picture of fistula (arrow) between gall bladder and hepatic flexure of transverse colon.

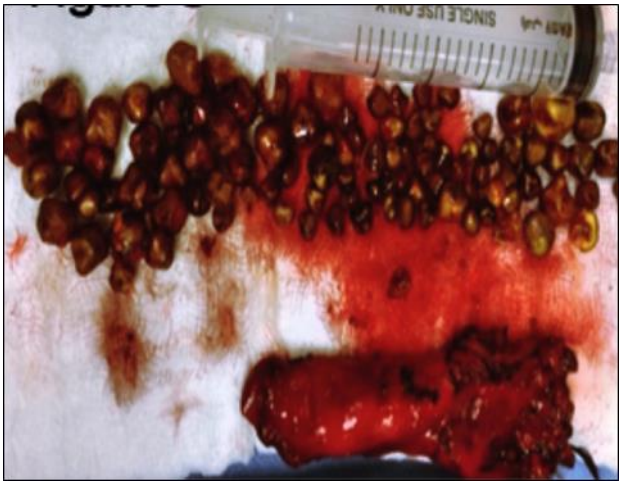

Figure 3: Gall bladder, post cholecystectomy.

The postoperative course was uneventful, and the patient was discharged on the 7th postoperative day. Histopathological examination of the specimen revealed chronic calculus cholecystitis and no evidence of malignancy. The patient was followed up for 4 months, and no complaints were noted.

DISCUSSION

CCF is a late complication of the chronic inflammatory processes in the gallbladder caused by gallstones and occurs in 0.06%-0.14% of patients with biliary disease. It is the second most common cholecystoenteric fistula after cholecystoduodenal fistulas, which represents 8% to 26.5% of all cholecystoenteric fistulas.[1,2] In their review of 231 published CCF cases, Costi et al, reported that the incidence of CCFs was higher among females (female/male ratio: 2.47/1) and was observed in various age groups in western and eastern populations, but was rarely observed in patients who were <50 years.[2]

Presentations of CCF are usually minimal or nonspecific and include abdominal pain, nausea, weight loss, malabsorption syndrome, and diarrhea. Weight loss and diarrhea were observed in 71% of the 231 CCF cases because enterohepatic circulation is usually affected, leading to increased secretion of water and electrolytes from the colon.[2,3]

The exact causes of CCF secondary to gallstone disease are unknown, but there are two theories that could explain the pathogenesis of CCF. The first theory is that the acute calculus cholecystitis results in the adjacent serosal surface becoming inflamed and adhering to the gallbladder; this ischemic area in the gallbladder wall becomes gangrenous, and, owing to the increase in pressure in the gallbladder, the gall bladder contents first penetrate through the necrotic wall followed by the wall of the adjacent colon.[1,4] The second theory is that pressure necrosis due to an impacted gallstone usually at the neck of the gallbladder leads to CCF.[4] Spontaneous

CCFs comprise 10-20% of all biliary enteric fistulas.[5] CCF can occur as a consequence of previous abdominal surgery, peptic ulcers, Crohn's disease, malignancy, trauma, or CBD stones.[2,6] Costi et al, found that 12 of the 231 CCF cases reviewed had a history of CBD stones for less than one year.[2]

CCFs are commonly discovered incidentally during cholecystectomy. Preoperative diagnosis of CCF is rare and considered in only 7.9% of all CCF patients compared to 43% of series reporting cholecystoenteric fistulas in general.[2] CCF can be diagnosed based on the findings of abdominal radiography, abdominal ultrasonography, barium studies, biliary scintigraphy, and endoscopic retrograde cholangiopancreatography. Although pneumobilia observed on plain radiography is a gold standard of diagnosis of bilioenteric fistula, this sign is often absent. Costi et al found that abdominal ultrasonography is a poor modality for CCF diagnosis.[2] There are no specific techniques to diagnose CCF preoperatively; the available tools have low sensitivity or are invasive in nature and are not routinely requested in the case of asymptomatic patients.

Failure to identify CCF during surgery can lead to serious complications, such as perforation of the colon, which can result in fecal peritonitis, sepsis, and even death in severe cases. CCF can cause large bowel obstruction and stone impaction at the rectosigmoid diverticula, especially if the stone is over 2.5 cm in diameter.[7,8]

If CCF is incidentally discovered during laparotomy, the CCF should be resected because there is a risk of cholecystitis, cholangitis, and malignancy (15% chance).[5]

CONCLUSION

The standard treatment for CCF is open cholecystectomy and closure of the fistula. Although recently laparoscopic surgery has been approved for treating CCF, 55% of the laparoscopic surgeries are converted to open access. Comparison of the intraoperative and postoperative outcomes between laparotomy and laparoscopic surgery has revealed no significant differnces.[9]

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Glenn F, Reed C, Grafe WR. Biliary enteric fistula. Surg Gynecol Obstet. 1981;153:527-31.
2. Costi R, Randone B, Violi V, Scatton O, Sarli L, Soubrane O, et al. Cholecystocolonic fistula: facts and myths. A review of the 231 published cases. J Hepato-Biliary-Pancreatic Sci. 2009;16(1):8-18.
3. Elsas LJ, Gilat T. Cholecystocolonic fistula with malabsorption. Ann Intern Med. 1965;63:481-6.
4. Gora N, Singh A, Jain S, Parihar US, Bhutra S. Spontaneous cholecystocolic fistula: case report. J Clin Diagnostic Res. 2014;8(3):164.
5. Correia MF, Amonkar DP, Nayak SV, Menezes JL. Cholecystocolic fistula: a diagnostic enigma. Saudi J Gastroenterol. Official Journal of the Saudi Gastroenterology Association. 2009;15(1):42.
6. LeBlank KA, Barr LH, Rush BM. Spontaneus biliaryenteric fistulas. South Med J. 1983;76:1248-52.
7. Reddy AK, Dennett ER. Cholecystocolonic fistula: a rare intraluminal cause of large bowel obstruction. BMJ Case Reports. 2016;2016:bcr2016217141.
8. Milsom JW, MacKeigan JM. Gallstone obstruction of the colon. Report of two cases and review of management. Dis Colon Rectum. 1985;28:367-70.
9. Angrisani L, Corcione F, Tartaglia A, Tricarico A, Rendano F, Vincenti R, et al. Cholecystoenteric fistula (CF) is not a contraindication for laparoscopic surgery. Surg Endosc. 2001;15:1038-41.

Cite this article as: Alqunai MS, Daif-Allah MA, Loai Alhammad. Acute cholecystitis with Cholecystocolic Fistula: A Case Report and pertinent literature review. Int Surg J 2017;4:2823-5.