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Case Report

Acute cholecystitis in a post-operated patient of subtotal laparoscopic cholecystectomy: case report

Braulio R. Muñoz, Carlos D. Gutiérrez*, Hugo E. Pereyra de la Cruz

Department of Gastrointestinal Surgery, Hospital De Especialidades "Dr. Bernardo Sepulveda Gutierrez", UMAE Centro Médico Nacional Siglo XXI, Instituto Mexicano Del Seguro Social, México City, México

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***Correspondence:**
Dr. Carlos D. Gutiérrez,
E-mail: carlosyamil7@gmail.com

ABSTRACT

Acute cholecystitis in the remnant of the gallbladder's wall is a rarely reported condition, which occurs in the 1.6% of all subtotal cholecystectomies, due to gallstones occluding the cystic duct. Symptomatology is variable and may be confused with other pathologies that begin after gallbladder surgery. In the following case we present an elderly woman who arrived at the emergency department with classic acute cholecystitis symptoms, she underwent a fenestrated subtotal laparoscopic cholecystectomy due to severe inflammation in the area of dissection. Ten months later, she returned with a similar clinical picture, ultrasound was performed showing a small-sized gallbladder with gallstones inside. Open cholecystectomy was performed due to adherences, the gallbladder was opened to extract the gallstones, likewise, dissection of the Hartmann's pouch until identified cystic duct, which was ligated along with the cystic artery. The patient's postoperative course was favorable, symptomatology disappeared after one day of the surgery. This is an interesting subject which needs to be widely known, therefore, we present the following case report.

Keywords: Cholecystitis, Surgery, Laparoscopic surgery, Gallbladder´s, Cholecystectomies

INTRODUCTION

Cholecystitis is a term used to describe the inflammation of the gallbladder wall, it can be acute or chronic. It appears mainly after a gallstone obstructs the cystic duct, followed by edema and necrosis of the gallbladder's wall due to a bacterial infection. It develops classic symptoms like upper right quadrant pain, fever, nausea, vomiting, and Murphy sign.[1]

The gold standard to treat acute cholecystitis is laparoscopic cholecystectomy; nevertheless, some complications can occur, including vascular lesions, bowel perforation, mesenteric injury, and bile duct disruption, often requiring immediate open intervention to solve it.[2,3]

In cases where laparoscopic cholecystectomy is not optimal, conversion to laparotomy is chosen (10.3%); the main factors are the inability to discern anatomy, bleeding, and gallbladder adhesions.[4] The conversion rate varies from 5-30%, being much higher in patients with acute cholecystitis exacerbation (up to 28%) than in elective procedures.[5-7] In a study carried out in Mexico City, the conversion rate was 12% in the context of acute cholecystitis, with the most influential factors being a male genre, older age, thicker wall of the gallbladder, and gallbladder edema.[8]

Some patients after the procedure experience symptoms such as dyspepsia, diarrhea, and upper abdominal pain with or without jaundice, this is called post-cholecystectomy syndrome and occurs in 40% of patients after the first year of the surgery.[9]

Acute cholecystitis in the remnant of the gallbladder's wall has an incidence in patients with subtotal cholecystectomy of 1.6% of all subtotal cholecystectomies. It happens due to gallstones occluding the cystic duct the same way as they do on a normal gallbladder.[10]

CASE REPORT

A 65-year-old woman arrives at the emergency room due to abdominal pain, colic-like, specifically in the right upper quadrant which irradiates to the scapula and shoulder area. The physician decided that surgery (cholecystectomy) was the adequate treatment; enestrated subtotal laparoscopic cholecystectomy was performed due to severe inflammation in the area of dissection (Calot triangle) caused by piocholecist.

Ten months later she arrived again due to similar symptomatology. Laboratories data were: hemoglobin 12.4 g/dl; platelets 256×10^3/µl, leucocytes 10.8×10^3 ($4.6\text{-}10.0\times10^3$); ALT/TGP 29.4 U/l; AST/TGO 30.9 U/l; direct bilirubin 0.378; indirect bilirrubin 0.92 U/l; and total bilirrubin 1.031 U/l. Ultrasound showed a normal liver gland; a small-sized gallbladder, in the common site, heterogeneous content suggesting gallstones inside, measures 2.4×1.7×1.7 cm, wall 0.2 cm; colledocus duct and porta measuring 0.5 cm and 0.5 cm, respectively (Figure 1).

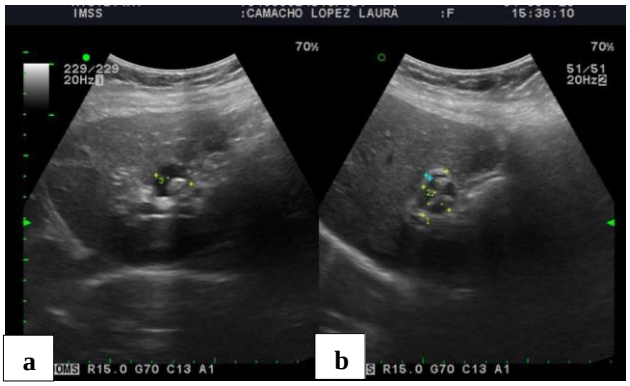

Figure 1 (a and b): Ultrasound showed a normal liver gland; a small-sized gallbladder, in the common site, heterogeneous content suggesting gallstones inside, measures 2.4×1.7×1.7 cm, wall 0.2 cm; colledocus duct and porta measuring 0.5 cm and 0.5 cm, respectively.

Once again, a surgical laparoscopic procedure for the remnant gallstones was programmed. Hasson technique was used to insert the laparoscope, and three trocars were used. Multiple adhesions were found (Zulkhe 4 and 5; greater omentum, duodenum, stomach to gallbladder), although adhesionectomy, common bile duct was not identified, therefore, open cholecystectomy was performed, through middle line supraumbilical incision. Blunt dissection was used to identify the remnant of the gallbladder; it was opened to extract the gallstones. Dissection of the Hartmann's pouch until identified cystic duct, which was ligated posteriorly sectioned, likewise, the same procedure was performed in the posterior cystic artery (Figure 2).

The patient's postoperative course was favorable, symptomatology disappeared after one day of the surgery, therefore, she was discharged on the second postoperative day. In the follow-up consultation, months after surgery, she reported improvement and denied any similar symptoms.

Figure 2: Identify the remnant of the gallbladder, it was opened to extract the gallstones.

DISCUSSION

Acute cholecystitis occurs due to the presence of gallstone inside the gallbladder; if the patient presents the criteria to diagnose it, using the TOKIO criteria (local signs of inflammation + systemic signs of inflammation + imaging findings), then surgical management with laparoscopic cholecystectomy is the pathway to follow.[11]

If anatomy does not allow the surgeon to carry out a complete cholecystectomy, to avoid complications, subtotal cholecystectomy could be performed where a gallbladder wall remanent is left in the liver bed. This procedure can be performed in two types, fenestrated and reconstituted based on the patient's characteristics and surgeon experience. The first one has more incidence of biller leak, and the last one has an increased risk of cholecystitis of the pouch.[12] Our patient's anatomy was hard to dissect, therefore reconstituting subtotal laparoscopic cholecystectomy was elected.

The postcholecystectomy syndrome is characterized by the recurrence of symptoms similar to those experienced before the cholecystectomy. It typically manifests as pain in the upper abdomen (mainly in the right upper quadrant), dyspepsia, nausea, and vomiting with or without jaundice. Similar to the symptoms caused by the inflammation of the gallbladder wall in cholecystitis patients.[9]

The most common cause of the postcholecystectomy syndrome is an overlooked extra-biliary disorder such as reflux oesophagic, peptic ulceration, irritable bowel syndrome, or chronic pancreatitis, nevertheless, there are biliary aetiologies such as biliary strictures, bile leakage, chronic biloma or abscess, long cystic duct remnant, stenosis, or dyskinesia of the sphincter of Oddi, bile salt-induced diarrhea or even cholecystitis of the gallbladder wall remanent.

Acute cholecystitis in the remnant of the gallbladder's wall happens due to gallstones occluding the cystic duct the same way as they do on a normal gallbladder, but symptoms start any time after surgery in patients with the same risk factors as in the acute cholecystitis.[10]

Appropriate therapeutic of remanent cholecystitis has not been fully elucidated. Remnant laparoscopic cholecystectomy is the most performed option to manage this clinical condition, likewise, endoscopic transpapillary gallbladder drainage (ETGBD) is another strategy to relieve inflammation and reduce the high risk of biliary common injury.[13]

CONCLUSION

The patient in this case had a definite diagnosis of acute cholecystitis, based on the TOKIO criteria, the first and second times that she arrived at the emergency room, both times, laparoscopic cholecystectomy was planned, likewise, both times gallstones were found inside the gallbladder and the remnant of the gallbladder's wall, respectively.

Acute cholecystitis in the remnant of the gallbladder's wall is a rare condition that can occur in patients after reconstituted subtotal cholecystectomy; differential diagnosis with post-cholecystectomy syndrome should be made in patients with gastrointestinal symptomatology after cholecystectomy procedure. Early suspicion of this disease can facilitate diagnosis and management, therefore, decreasing hospitalization days, symptomatology, and severe complications (cholangitis).

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