



Post cholecystectomy syndrome need to redo laparoscopic completion surgery: A case report

Ali Zahedian, Sekineh Kamali Ahangar, Yasser Asghari*

Clinical Research Development Center, Shahid Beheshti Hospital, Sargord Ghasemi Street, Shahid Keshvari Square, Babol, Mazandaran, Iran

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ABSTRACT

INTRODUCTION: Cholecystectomy is the standard treatment for symptomatic gallbladder stone disease. However, symptoms such as abdominal pain and dyspepsia may persist even after surgery, if the gallbladder is incompletely removed known as postcholecystectomy syndrome.

CASE PRESENTATION: A 55-year-old man with a history of open cholecystectomy presented with a complaint of recurrent pain on his upper abdomen. Abdominal ultrasonography and magnetic resonance cholangiopancreatography revealed a cystic structure in the gallbladder fossa, with a filling defect at the midpoint of the cystic duct, suggesting a retained stone in the cystic duct and residual gallbladder. Therefore, he underwent completion laparoscopic cholecystectomy. He had an uneventful postoperative period with relief of the recurrent pain.

DISCUSSION: Proper dissection and identification of the gallbladder and cystic duct junction is necessary for complete removal of the gallbladder and preventing postcholecystectomy syndrome. Patients with a retained stone in the residual gallbladder should undergo surgery, and the laparoscopic method can be performed by a surgeon with expertise in this revision surgery.

CONCLUSION: In post-cholecystectomy syndrome, symptomatic Patients with retained stone in partially removed gall bladder by open method needs laparoscopic cholecystectomy by an expert surgeon to relieve their symptoms

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1. Introduction

Cholecystectomy is the most common surgery for symptomatic gallbladder stone disease and laparoscopic surgery is the gold standard choice for it. However, in some patients, symptoms such as pain and dyspepsia, may persist after surgery as postcholecystectomy syndrome [1–3]. This is due to residual stone in the gallbladder remnant because of partial cholecystectomy or in the particularly long cystic duct [1,2,4]. Its seems to be slightly more in laparoscopic cases than the ones with open cholecystectomy [5,6]. Poor visualization during laparoscopic surgery, severe inflammation and dense adhesions in the acute phase of the disease, excessive bleeding, and confounding gallbladder morphology are the reasons for incomplete resection of the gallbladder or division of the cystic duct close to the gallbladder to avoid iatrogenic common bile duct injury [7,8]. Here, we present a case of post cholecystectomy syndrome that underwent laparoscopic completion cholecystectomy due to retained stone at residual gallbladder stump. This work has been reported in line with the SCARE criteria [9].

2. Case presentation

A 55-year-old man presented to us with a complaint of recurrent pain of his epigastrium and right upper quadrant of abdomen. He had history of open cholecystectomy because of gallstone about 1 year ago. He stated that the pain was similar to RUQ pain before cholecystectomy and was accompanied with nausea & vomiting. It was not associated with fever, jaundice, anorexia or weight loss. Physical examination revealed right subcostal scar of open cholecystectomy. There was no palpable mass or organomegaly. Laboratory investigations showed leukocyte count of 11200, platelet count of 158000, hemoglobin of 11.8. Total bilirubin was 1.09 mg/dl, direct bilirubin was 0.27 mg/dl, AST and ALT were 14.1 and 10.4 respectively and alkaline phosphatase was 62 u/l.

Abdominal ultrasound revealed a 35 mm × 20 mm echoluscent structure at gallbladder fossa with a 8 mm stone inside that suggesting for cystic dilation of the cystic duct by attention to history of cholecystectomy. Liver echo texture and intra and extrahepatic biliary duct had normal appearance.

Magnetic resonance cholangiography(MRCP) revealed a filling defect (9 mm) in mid part of the cystic duct suggesting for stone in cystic duct or residual gallbladder. (Fig. 1)

* Corresponding author.

E-mail address: yasserasghari82@gmail.com (Y. Asghari).



Fig. 1. MRCP: residual part of the gall bladder and filling defect in mid part of the cystic duct.

The patient underwent laparoscopic intervention, lysis of dense adhesions of bowel and omentum was done gently. A cystic structure of 3.5×2 cm size in Calot's area was found, that confirmed to be the residual gallbladder and dilated cystic duct with stone inside it. Completion cholecystectomy was done after ligating the cystic duct. (Fig. 2)

Histopathology was compatible with the gallbladder remnant with stone. Post operative recovery was uneventful with complete resolution of symptoms after 6 month follow up.

3. Discussion

Cholecystectomy as open or laparoscopic surgery is an accepted treatment for symptomatic gallstone disease, that provides relief of symptoms in about 85% of cases [10].

However some patients may suffer from upper abdominal pain similar to situation that had before surgery. These symptoms that are known as postcholecystectomy syndrome may be due to biliary stricture, retained or recurrent biliary stone, stenosis or dyskinesia of oddi sphincter, remnant gallbladder or cystic duct stump stone [3,7,11–13].

Patients at increased risk of stones in the cystic duct are those with history of recurrent biliary colics, pancreatitis, obstructive jaundice and those who underwent therapeutic ERCP before surgery [14].

Partial cholecystectomy due to confounding anatomy or severe inflammation and adhesions of biliary duct and gallbladder may accompany with stone remnant or new stone formation that result in post cholecystectomy syndrome [12,15].

Ultrasonography, CT scan, ERCP, MRCP and EUS are effectively used to provide a diagnosis of causes of postcholecystectomy syndrome [16–18].

Abdominal sonography is often the first paraclinical investigation of the patient with post cholecystectomy syndrome, but it can miss in nearly 50% of case comparing to MRCP [19].



Fig. 2. Residual gall bladder that was removed laparoscopically.

In our report sonography reveals a cystic structure at gallbladder fossa with a stone inside it that suggested residual gallbladder or dilated cystic duct stump with remnant stone.

MRCP is a noninvasive method, which needs no sedation with no radiation exposure risk. Moreover, its sensitivity and specificity is similar to those of EUS [17]. It has sensitivity between 85% to 100% to demonstrating biliary anatomy and stones [19].

In our case report, MRCP revealed a cystic structure with filling defect inside it at gallbladder fossa & determined the biliary duct anatomy.

Proper dissection and identification of the gallbladder and cystic duct junction is necessary for complete removal of the gallbladder and preventing postcholecystectomy syndrome. Patients with a retained stone in the residual gallbladder should undergo surgery, and the laparoscopic method can be performed by a surgeon with expertise in this revision surgery.

Once a patient has been diagnosed as having residual stone, surgical intervention should be undertaken to resolve the symptoms and avoid potentially life-threatening complications such as carcinoma, recurrent cholangitis, mucocele formation, and Mirizzi syndrome [13,20].

The open method was traditionally considered the procedure of choice for completion surgery. However, with the modern instruments and advances in laparoscopic surgery, as well as the increasing experience of surgeons, even these cases can be operated laparoscopically. It was believed that laparoscopy has a high surgical risk because of the previous surgical intervention, and inflammation and adhesions [10,21].

The first laparoscopic completion cholecystectomy was reported by Gurel et al. in 1995 [22]. Despite some previous opinions, nowadays the laparoscopic approach on the biliary system appears to be a minimally invasive, safe and feasible procedure when done by expert laparoscopic surgeons as a completion surgery [23].

4. Conclusion

In post-cholecystectomy syndrome, symptomatic Patients with retained stone in partially removed gall bladder by open method needs laparoscopic cholecystectomy by an expert surgeon to relieve their symptoms.

Patients with recurrent symptoms and proven due to remnant stones should be operated and laparoscopic surgery is not a contra-indication for these revision surgery.

Conflict of interest

There is no conflict of interest.

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Ethical approval

Ethical approval has been given, because its not required/necessary in our institute. If it is necessary for your journal we can approve it.

Consent

“Written confirmed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request”.

Author contribution

A. Zahedian: surgery, study concept, revision.

Y. Asghari: data collection, follow up the patient, writing the paper.

S. Kamali: writing the paper, editing, do submission steps.

Guarantor

A. Zahedian.

Y. Asghari.

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