



RECURRENT UPPER ABDOMINAL PAIN IN A CASE OF POST CHOLECYSTECTOMY PATIENT- A RARE CASE REPORT OF RESIDUAL GALL BLADDER AND CYSTIC DUCT STUMP STONE

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ABSTRACT

INTRODUCTION: Post cholecystectomy syndrome is defined as group of symptoms such as abdominal pain and dyspepsia which remains after surgery if the gall bladder is incompletely removed.

CASE PRESENTATION: A 45 year old woman with a history of open cholecystectomy presented with a complaint of recurrent upper abdominal pain. Abdominal Ultrasonography says stump of GB is visualized, a calculus of size 0.92 cm with sludge seen in lumen of stump. CBD is mild dilated (0.59cm) and MRCP shows well defined cystic area is seen at the GB fossa region likely hypertrophy stump with a hypo intense filling defect within the cystic area suggestive of left over stone. Therefore she underwent open completion cholecystectomy.

DISCUSSION: Proper dissection and identification of the Gall bladder and cystic duct junction is required for cholecystectomy and preventing Post cholecystectomy pain syndrome. Open completion cholecystectomy must be performed in a patient who has been diagnosed with retained stone in a residual gall bladder.

CONCLUSION: In Post cholecystectomy syndrome symptomatic patients with retained stones in partially removed Gallbladder must need an open completion cholecystectomy.

KEYWORDS : Post cholecystectomy syndrome, Residual Gall bladder, Open completion cholecystectomy

INTRODUCTION

After cholecystectomy, pre operative symptoms recur in 10-40% of patients. The onset of symptoms may vary from 2 days to 25 years¹⁻⁴. The incidence of recurrent symptoms in female patients was reported as 43%, compared to 28% among male patients⁵.

In the majority of patients, symptoms are mild and short lived, but 2-5% will continue to have frequent debilitating pain, a condition referred to as the post cholecystectomy syndrome (PCS)⁶.

Rather than being a single disorder, this term encompasses a widely varying group of disorders, including extrabiliary, organic biliary, and functional biliary diseases.

The most common cause of the post cholecystectomy syndrome is an overlooked extrabiliary disorder such as reflux esophagitis, peptic ulceration, irritable bowel syndrome or chronic pancreatitis^{7,11}. The biliary etiologies include bile salt-induced diarrhea or gastritis, abscess, chronic biloma, retained calculi, dropped calculi, bile leak, biliary strictures, long cystic duct remnant, stenosis, and dyskinesia of the sphincter of Oddi¹⁰.

The primary reported extrabiliary causes include gastrointestinal causes like acute/chronic pancreatitis (and complications), pancreatic tumors, pancreas divisum, hepatitis, esophageal diseases, peptic ulcer disease, mesenteric ischemia, diverticulitis, and organic or motor intestinal disorders. It also includes extra-intestinal causes like psychiatric and neurological, disorders, coronary artery disease, intercostal neuritis, wound neuroma, and unexplained pain syndromes¹¹.

CASE REPORT:

5 years after undergoing open cholecystectomy for symptomatic gallstones a healthy 45 year old woman begins to have episodes of epigastric pain, dyspepsia, flatulence and back pain similar to the pain she experienced before the surgery.

The post operative period was uneventful without any complications and her classic biliary colic disappeared afterward.

Histopathological examination of the surgical specimen

revealed chronic cholecystitis with multiple small mixed gallstones.

Now she describes a burning pain in her epigastrium and mid to upper back, starting about 30 mins after a meal and lasting upto 2 to 3 hrs. She also complains the pain awakens at night. She avoids eating for fear of inducing the pain.

She has no history of fever, nausea, vomiting, jaundice or any changes in colour of urine and stools.

3 years ago she was diagnosed with Antral gastritis by upper GI endoscopy. It was treated with PPI's for 1 month. She gives history that ulcer pain was dull aching and different from her current pain.

Now recently 3 months back repeated upper GI endoscopy showed no evidence of peptic ulcer disease/esophagitis. Apart from Gall bladder operation she has had no other surgery. The patient doesn't smoke, doesn't drink alcohol, is not currently taking any medications. No significant family history noted.

ON GENERAL PHYSICAL EXAMINATION:

On examination, her body temperature is 100°F (37.7°C), BP is 130/80 mm Hg, heart rate is 82 bpm, blood oxygen saturation 100% on room air. Her weight is 55 kg, height is 160 cm ie 5 ft 2 inch.

No icterus, pallor, lymphadenopathy, clubbing, cyanosis, edema.

Respiratory system and cardiovascular system are with in normal limits.

Abdomen is soft, mild tender present over epigastrium and right hypochondrium, no distension, no organomegaly, no reboundtenderness, no guarding. Scar is present and have healed well. Her bowel sounds are normal.

No costovertebral angle or spinal tenderness can be elicited.

LABORATORY REPORTS. Her current laboratory values

	Values	Reference Range
Total count	8.83	3.7-11.0×10 ⁹ /L
Haemoglobin	13.2	11.5-15.5 g/dL
Hematocrit	37.9	36%-46%

Amylase	59	0-137 U/L
Lipase	58	12-70 U/L
Urea	11	8-25 mg/dL
Creatinine	0.7	0.7-1.4 mg/dL
Sodium	130 mEq/l	130-150 mEq/l
Potassium	3.7 mEq/l	3.5-5.5 mEq/l
Total Bilirubin	0.6 mg/dL	0.2-1.0 mg/dL
Direct	0.4 mg/dL	<0.2 mg/dL
Indirect	0.2 mg/dL	<0.1 mg/dL
SGPT	36 IU/ML	10-40 IU/ML
SGOT	32 IU/ML	10-40 IU/ML
Protein	6.8 mg/dL	6-8 mg/dL
Albumin	3.6 mg/dL	3.7-5.3 mg/dL
Globulin	3.2 mg/dL	2.3-3.6 mg/dL
Platelets	400	150-400×10 ⁹ /l

DISCUSSION

Although the patient is presenting with pain and fever, two features of the classic Charcot triad (pain, fever, jaundice) seen in cholangitis (infection of a bile duct), and although cholangitis almost confirms the diagnosis of common bile duct stones in a patient with gallstones (before or after cholecystectomy), other diagnoses to consider are bile duct injury, bile leak, and biloma. Biloma can be detected with ultrasonography. Bile duct injuries are identified intraoperatively in up to 25% of patients. For those with an unrecognized injury, the clinical presentation is variable and depends on the type of injury. If a bile leak is present, patients present early, at a median of 3 days postoperatively. However, our patient presented with symptoms 5 years after her surgery. Patients with bile duct strictures without bile leak have a longer symptom-free interval and usually present with signs of biliary obstruction. Ultrasonography can then detect biliary dilatation¹².

Ultrasonography of the right upper quadrant has a low sensitivity (< 50%) for detecting common bile duct stones. However, it is highly operator-dependent, and it may be twice as sensitive if done by expert radiologists than by less experienced ones. Its limitations include poor visualization of the distal portion of the duct and low sensitivity in patients in whom the common bile duct is minimally dilated and also in patients with small stones. In most studies, however, it had a very high specificity—ie, greater than 95%.⁸

Ultrasonography report of this patient shows Gall bladder not visualized (H/O operation). Only stump of GB is visualized. A calculus is seen in lumen of stump, measuring 0.92 cm, same amount of sludge's also seen in lumen of stump. CBD is mild dilated. It measures 0.59cm in diameter. Lower part of CBD not visualized, visualized part of lumen is free.

MRCP has a sensitivity of 82.6% and a specificity of 97.5% in detecting stones in the common bile duct.⁹ Therefore, normal results on abdominal ultrasonography and MRCP do not completely rule out stones.

MRCP of this patient suggests,

- Well defined cystic area is seen at the GB fossa region likely hypertrophy stump with a hypo intense filling defect within the cystic area suggestive of left over stone.
- Prominent CBD with smooth tapering to the distal end without any definite obstruction.

CAUSES OF RETAINED GALLBLADDER AND CYSTIC DUCT REMNANT

During open cholecystectomy, the cystic duct is ligated and cut as close to the common bile duct as possible, leaving only a small remnant. In laparoscopic cholecystectomy, it is divided closer to the gallbladder to avoid iatrogenic injury to the

common bile duct, leaving a longer remnant. A long cystic duct remnant can be prevented by accurately locating the junction of the gallbladder and the cystic duct during cholecystectomy and by routinely doing intraoperative cholangiography.

The presence of stones in a cystic duct or retained gallbladder remnant is a rare cause of post cholecystectomy syndrome, and suspicion is required to make the diagnosis¹³⁻¹⁵.

We should note that stones may also lurk in the short cystic duct remnant left after open cholecystectomy. In fact, the first case of cystic duct remnant, the so-called reformed gallbladder containing stones, was described in 1912 by Flörcken¹⁶.

Another potential explanation for the retained gallbladder remnant is that the cholecystectomy was done while the patient had acute cholecystitis, in which inflammation may obscure anatomic landmarks. Hence, cholangiography during laparoscopic cholecystectomy has been widely recognized as a means of delineating the biliary anatomy.

HOW TO EXTRACT THE CYSTIC DUCT STUMP STONE?

A symptomatic stone in a cystic duct remnant is uncommon and is mentioned in the literature only in case series and case reports.

Repeat cholecystectomy with removal of stones in the cystic duct remnant (and removal of retained gallbladder remnants and reduction of the cystic duct remnant) has good postoperative results^{13,14,17,18}.

After incomplete cholecystectomy, the cystic duct remnant and the Calot (cystohepatic) triangle are surrounded by inflamed scar tissue, and this was thought to make laparoscopic reoperation difficult¹⁹.

Treatment of the cystic duct remnant was traditionally done as open technique as laparoscopy was thought to be risky due to scaring of the surgical bed. Off late, due to expertise in laparoscopic surgery, minimal access surgery is now considered the management of choice²⁰. Other treatments reported include ERCP with basket, laser lithotripsy, ESWL with or without endoscopic stone removal²¹.

Our patient underwent Repeat Open Cholecystectomy, Intraoperative findings are, adhesions are present surrounding GB fossa, duodenum, parietal wall, Gallbladder remnant is present upon palpation stone is present at the remnant gall bladder and cystic duct junction. CBD appear normal.

Cystic duct and cystic artery ligated.GB remnant dissected from the GB fossa. Specimen along with remnant stone sent for hispathological examination.

Post operative period is uneventful without any complications.

CONCLUSION

Proper evaluation to rule out all non-biliary causes. MRCP is the modality of choice to look for biliary cause of PCS and should be interpreted to look for all possible complications.

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

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