

POST-CHOLECYSTECTOMY SYNDROME DUE TO STUMP-STONES : A POSSIBILITY

Jashim Uddin Ahmed¹ Kawsar Alam² Nasir Uddin³ Md Nurul Hoque⁴ Taniza Jabin⁵

Summary

Recurrence of biliary symptoms following cholecystectomy either laparotomic or laparoscopic, is quite common. Causes are either biliary or extra-biliary. Symptoms of biliary origin chiefly depends on residual stones, biliary stricture, rarely depends on stones in cystic duct or gallbladder remnant. Diagnosis of stump-stones is difficult, mainly arising from USG, MRCP, CT-scan, ERCP. Completion cholecystectomy can be done by laparotomy or laparoscopically. We report two cases of stump-stones discovered after 10 years & 5 years following lap chole and minilap cholecystectomy respectively, who were diagnosed by USG, CT-scan and managed by open completion cholecystectomy. Stump-stones can be a possibility of post cholecystectomy syndrome even after 10 years and surgeons should be aware of it.

Key words

Cholecystectomy; Laparotomic; USG; CT-scan.

Introduction

Recurrence of symptoms similar to those before cholecystectomy is known as post cholecystectomy syndrome. The time to the onset of symptoms can range from 2 days to upto 25 years [1-4]. Woman may be at higher risk, may follow open or laparoscopic cholecystectomy [5]. Causes are either biliary or extra-biliary.

Symptoms of biliary origin depends on residual stones, stricture of duct, dropped stone, stone in cystic duct or gallbladder remnant. Extra-biliary causes include functional and organic disorders, such as PUD, GERD, pancreatic disease, IBS etc.

In Lap Chole cystic duct is divided close to gallbladder to avoid injury to CBD, leaving a long remnant, specially in acute cases.

Incomplete gallbladder removal may be either voluntary or inadvertent. In voluntary case, it is performed to remove gallbladder without dissecting a difficult Calot's triangle. Presence of stones in cystic duct or retained gallbladder remnant is a rare cause of PCS, suspicion is required to make the diagnosis [6-8].

Diagnosis of stones in cystic duct or gallbladder remnant is difficult, USG has a low sensitivity, highly operator-dependent [9].

MRCP has high sensitivity (82.6%) and specificity (97.5%) in detecting stones in CBD, cystic duct or gallbladder remnant [10].

CT-scan, MRI, endoscopic USG are also used in diagnosis .

Stones in cystic duct or GB remnant can be removed by-- laparoscopic exploration and removal, by ERCP and stone extraction, by laparotomy and completion cholecystectomy,

Other options are ESWL if ERCP fails, Endoscopic biliary LASER lithotripsy [11,6].

Case Report 1

A female patient of 46 years , presented with recurrent upper abdominal pain, occasional vomiting for last 3 months. Lap chole was done for her gall stone disease in middle of 2004. Since then she was alright before present complaints. Her early documents showed, GB was adherent with omentum, duodenum and had multiple stones.

She had DM HTN. On physical examination she was non-icteric, abdomen soft, right Hypochondrium was tender, no organomegaly.

1. Professor of Surgery
Chittagong Medical College, Chittagong
2. Consultant of Anaesthesiologist
Chittagong Metropolitan Hospital, Chittagong
3. Post Graduate Student (Surgery)
Chittagong Medical College, Chittagong
4. Post Graduate Student (Surgery)
Bangabandhu Sheikh Mujib Medical University (BSMMU) Dhaka
5. Intern
Chittagong Medical College Hospital, Chittagong

Correspondence : Dr. Jashim Uddin Ahmed
Email: drjuahmed@yahoo.com
Cell : 01711 748258

Laboratory investigations including LFT were within normal limit. USG report was echogenic structures seen in porta hepatis. CT-scan report was multiple stones in cystic duct stump, but biliary tree, pancreas was normal (Fig 1 & 2).

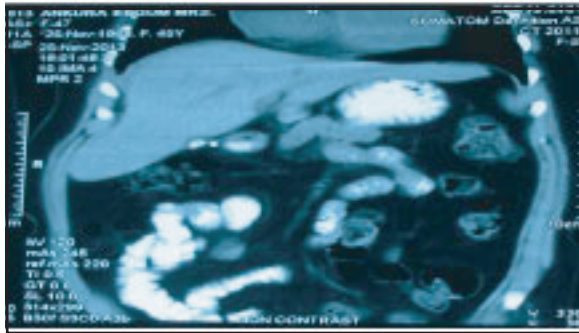


Fig 1 : CT scan shows multiple stones in cystic duct remnant

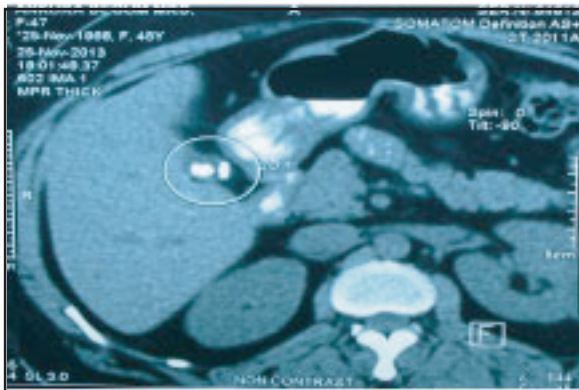


Fig 2 : CTscan shows stones in cystic duct stump

Open exploration was done. Adhesions released. Stump was identified by presence of metallic clip and multiple stones, released from GB bed in liver (Fig 3). No palpable stones in CBD found.



Fig 3 : Per-operative photograph shows dilated, thick cystic duct stump with stones.

So stump with stones was excised after ligation close to CBD (Fig 4)



Fig 4 : Photograph of excised cystic duct stump with stones

Wound was closed with a drain in subhepatic space, patient recovered uneventfully, discharged on the 4th POD.

Case Report 2

A male patient of 43 years, presented with recurrent upper abdominal pain, nausea, occasional vomiting. Pain radiates towards back and right chest, for last 2 months. He mentioned symptoms are similar to what he experienced before surgery. He had minilap cholecystectomy in May, 2009. His early documents revealed – USG shows GB full of stones, CBD normal, histopathology of GB –chronic cholecystitis. He is normotensive, non-diabetic but HBsAg +ve on screening test.

On physical examination BP=125/80 mmHg, HR=82/m,

No fever, nonicteric, not anaemic, heart & lungs, normal.

Abdomen- soft, epigastrium-tender, no distension, bowel sound present. Scar of minilap healed well.

Laboratory investigations including LFT results were within normal limit. USG – suspected stones in cystic duct stump.

He had continuous epigastric pain in last 2 weeks, irrespective of treatment.

We advised CT-scan of abdomen, report was multiple stones in GB remnant or cystic duct stump, biliary tree, pancreas & liver was normal (Fig 1,2,3).

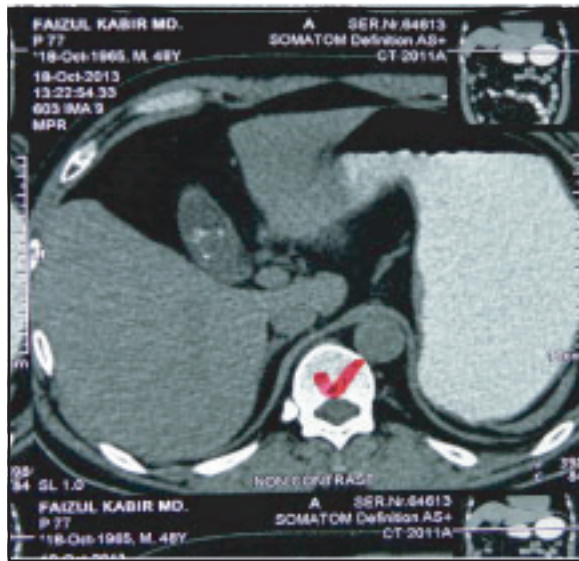


Fig 1 : CT-scan shows GB remnant containing multiple stones

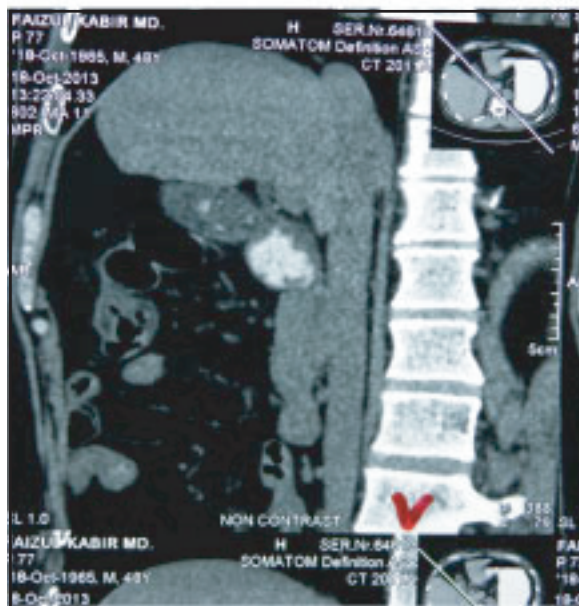


Fig 2 : CT-scan shows GB remnant with multiple stones

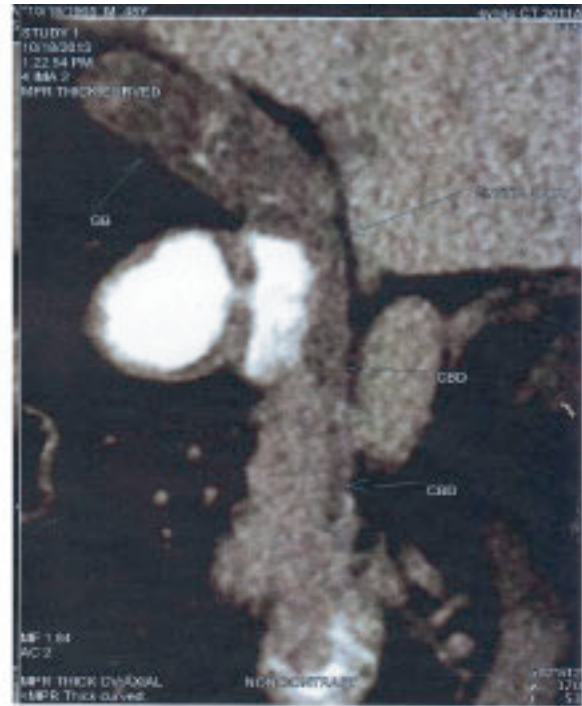


Fig 3 : CT-scan showing normal biliary tree

We decided open exploration, as the patient had previous minilap cholecystectomy. On exploration, extensive adhesions seen in right subhepatic space, stones were identified by palpation. After dissection stones were found within remnant of GB with short cystic duct (Fig 4, 5).

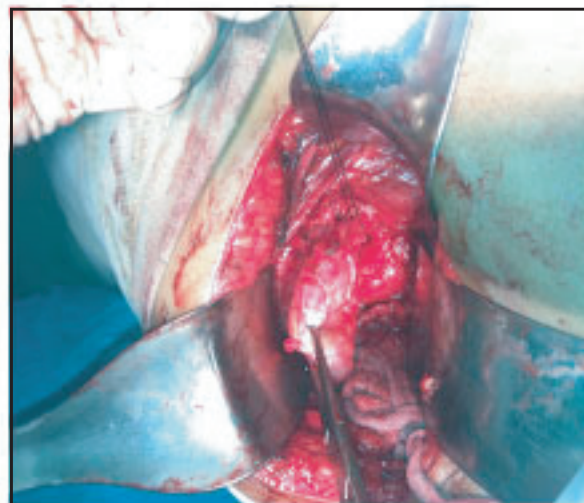


Fig 4 : per-operative photograph shows dilated, thick GB remnant & short cystic duct isolated with suture



Fig 5 : photograph of GB remnant with stones after removal

No palpable stones in CBD, so completion cholecystectomy was done. Incision was closed with a drain in subhepatic space. Patient recovered without complication and discharged on the 4th POD.

Discussion

Remnant GB or cystic duct stones are uncommon. The estimated incidence of retained calculi within cystic duct remnant after cholecystectomy is less than 2.5 % [12-13].

The 1st case of cystic duct remnant, the so called reformed gallbladder containing stones was described in 1912 by Florcken [14]. In a series of 322 patients who underwent repeat surgery because of post cholecystectomy syndrome, Rogy et al found only 8 who had a stone in cystic duct or GB remnant [13].

In a series of 371 patients Zhou et al found 4 who had a stone in cystic duct [2].

Diagnosing stones in surgical remnant of cystic duct or gall bladder can be difficult. USG may suggest cystic duct stone by showing acoustic shadow. Walsh et al found that ERCP correctly diagnosed the retained stones in only 4 out of 6 patients [6]. In 3 cases of stones in post surgical gallbladder remnant, Hassan & Vilmann reported that ERCP, MRCP failed to identify GB remnant in 2 out of 3 cases [15]. Diagnosis was made finally by endoscopic USG.

In our case USG & CT-scan diagnosed stones in GB remnant, cystic duct stump.

The main problem is not the remnant itself but the chance that it harbours retained stones which can lead to dilatation and inflammation of the remnant. The patient can develop symptoms of acute cholecystitis, acute cholangitis or even Mirrizi's syndrome [16,12]. Our patient presented with symptoms of recurrent attacks of cholecystitis.

Post cholecystectomy cystic duct or GB remnant stones, Mirrizi's syndrome were formerly managed with surgery, preferably laparoscopically. During last 2 decades, cases have been reported in which cystic duct remnant stones were treated

endoscopically [17].

Our patient with cystic duct stones & GB remnant stones, having past history of lap chole & minilap cholecystectomy, successfully managed by open completion cholecystectomy.

Conclusion

Stump stones can be a possibility of post cholecystectomy syndrome even after 10 years following laparotomic or laparoscopic cholecystectomy. Surgeons should be aware of it and should apply techniques to avoid such complications.

Disclosure

All the authors declared no competing interest.

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