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Case Report

Case report of choledocholithiasis 40 years post cholecystectomy ☆

Bertrand Ng, MBBS[a,b]

[a] *Department of Surgery, Logan Hospital, Meadowbrook, Queensland, Australia*
[b] *Associate Lecturer University of Queensland*

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ABSTRACT

Choledocholithiasis occurring 40 years postcholecystectomy surgery is not commonly seen and is one of the longest reported latency period in literature today. Herein, we report a case of a 72 year old lady with previous open cholecystectomy 40 years ago, presented with acute onset right upper quadrant pain. Her bloods result revealed an obstructive jaundice picture with total bilirubin 125 μmol/L. Computed tomography imaging revealed high burden calculi in the common bile duct. The choledocholithiasis was subsequently completely retrieved by endoscopic retrograde cholangiopancreatography procedure. The commonest causes for delayed presentation of choledocholithiasis is retained or regeneration of stones within a gallbladder remnant or cystic duct with majority of retained stones present within 2-3 years of surgery. Presentation later than that is thought to be secondary to migratory surgical clips as it acts as a nidus for stone formation. There are other studies that revealed common bile duct stones formation to be associated with bile duct stricture, periampullary diverticulum, parasites or foreign bodies within bile duct or other factors that can cause bile stasis. Our aim for this case report is to add to the current handful of cases with such lengthy latency and hopefully this will give rise to future research and to better our understanding of the potential risk factors and causation of this prolonged latency postcholecystectomy.

Introduction

Gallstones disease is one of the commonest causes of abdominal pain requiring hospital admission in a developed country [1]. Cholecystectomy has remained to be the treatment of choice for gallbladder diseases such as acute cholecystitis, symptomatic cholelithiasis, gallstone pancreatitis; since open surgery in the early 1990s [2]. Despite the increasing number of cholecystectomy performed, choledocholithiasis postcholecystectomy is relatively rare with an approximate incidence of 0.4% [3]. In my subsequent case discussion below, the patient was found to have choledocholithiasis 40 years after an open cholecystectomy. This is probably one

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E-mail address: bertrand.ng@uq.edu.au

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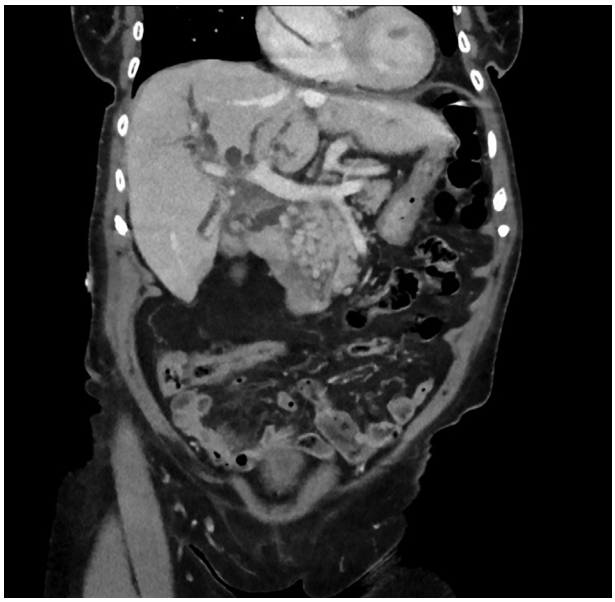

Fig. 1 – Computed tomography abdomen coronal view reflecting numerous calculi in the common bile duct.

Fig. 2 – Computed tomography abdomen axial view demonstrating severely dilated left and right intrahepatic ducts.

of the longest reported latency period in choledocholithiasis following cholecystectomy and the previous longest period in literature, to the best of our knowledge was 33 years [4].

Case Report

A 72 year old Caucasian lady with past medical history of Parkinson disease and open cholecystectomy done 40 years ago presented to the emergency department with 3 days history of constant epigastric pain. She described having pale-colored stool, dark urine and being jaundiced for the last 2 days. She denies having previous similar episodes of pain in the past. Her usual medication includes Madopar and Apomorphine infusion pump whom she has been on for a number of years for her Parkinson disease. She also denies having any significant alcohol history.

On examination, her abdomen is soft with mild epigastric and right upper quadrant tenderness. She was febrile on presentation however her other vital signs were within normal limit.

Her bloods result revealed an obstructive jaundice picture with total bilirubin 125 μmol/L, conjugated bilirubin 91 μmol/L, aspartate aminotransferase 147 U/L, alanine transaminase 192 U/L, alkaline phosphatase 298 U/L, gamma-glutamyl transferase 400 U/L. Her lipase was also raised at 540 U/L.

An abdomen contrast -enhanced computed tomography (CT) imaging demonstrated a severely dilated biliary tree with the common bile duct measuring up to 32 mm in diameter secondary to numerous calculi in the common bile duct. No visible pancreatic head mass and no pancreatic duct dilatation was seen (Figs. 1-3).

She continued to spike fever on her first day of admission and was treated as cholangitis with broad spectrum intravenous antibiotics. An urgent endoscopic retrograde cholangiopancreatography procedure was performed. During the procedure, a biliary sphincterotomy was done and the biliary tree was swept with a successful removal of all stones, accomplished with a balloon extraction. Cholangiogram post procedure was clear to confirm a clear duct.

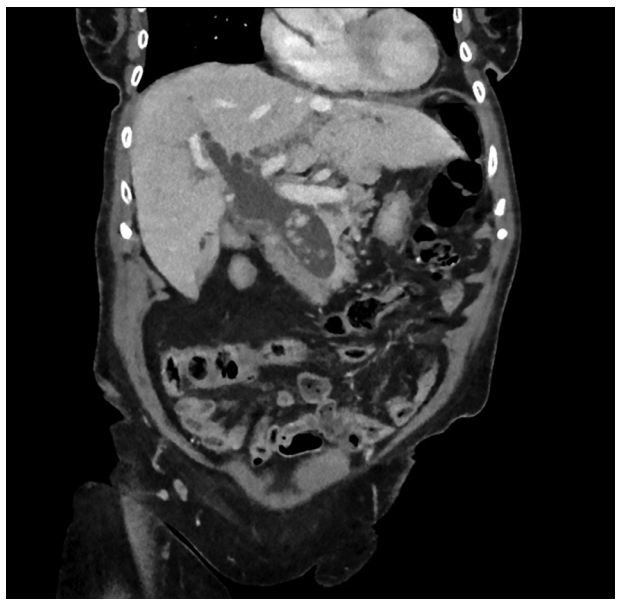

Fig. 3 – Computed tomography abdomen coronal view reflecting severely dilated common bile duct.

Case discussion

There are 2 types of choledocholithiasis: primary, which is stones that forms within common bile duct or intrahepatic duct and it is thought to occur because of biliary stasis and abnormality in the sphincter of Oddi; while secondary choledocholithiasis are stones that migrate into common bile duct via cystic duct [5]. The commonest causes for delayed presentation of choledocholithiasis is retained or regeneration of stones within a gallbladder remnant or cystic duct [6]. Studies have shown that majority of retained stones present within 2-3 years of surgery [6,7]. Presentation later than that is thought to be secondary to migratory surgical clips as it acts as a nidus for stone formation. There are studies that revealed common bile duct (CBD) stones formation is associated with bile duct stricture, periampullary diverticulum, parasites or foreign bodies within bile duct or other factors that can cause bile stasis [8]. Current evidence suggests endoscopic ultrasound or magnetic resonance cholangiopancreatography as the investigation of choice for CBD stones however CT scan is important in looking for features of CBD stone, malignancy coexisting and to investigate for other causes of abdominal pain [9]. In the case above, some plausible causes for such high burden CBD stone formation are a sphincter of Oddi dysfunction or a benign periampullary CBD stricture. Hepatobiliary Iminodiacetic Acid Scan or the endoscopic retrograde cholangiopancreatography with manometry was not performed to further investigate the sphincter of Oddi dysfunction in this case due to the patient's acute presentation. One of the limitations of this case is not being able to retrieve old documentation on the open cholecystectomy performed 40 years ago and whether a cholangiogram was performed during the surgery.

Conclusion

This is only the third case report on post cholecystectomy whom developed choledocholithiasis after a latency of more than 30 years recorded in literature, based on our literature search [4]. The long period of latency of 40 years between post-surgery and presentation with choledocholithiasis reduce the likelihood of this being secondary stones within bile ducts however the numerous numbers of stones found in the common bile ducts can also be attested as retained stones. Our aim for this case report is to add to the current handful of cases with such lengthy latency and hopefully this will give rise to future research and to better our understanding of the potential risk factors and causation of this prolonged latency postcholecystectomy.

Learning Points

- The commonest causes for delayed presentation of choledocholithiasis postcholecystectomy is retained or regeneration of stones within a gallbladder remnant or cystic duct.
- Even with a long latency period of 40 years post cholecystectomy, choledocholithiasis can still occur, giving rise to cholangitis or pancreatitis, and hence it is important for clinician to still consider it as a differential diagnosis and organize appropriate cross sectional imaging if in doubt.

Patient consent

I have obtained written informed consent for permission for publication for an education purpose in an anonymous manner from the patient(s) or their legal representative(s)/guardian(s).

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