

# Biliary Calculus without Obstructive jaundice: Rare Entity

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## Abstract

Obstructive jaundice with biliary calculus is one of the most common benign surgical pathologies requiring surgical intervention. Biliary calculus obstructs the flow of bile from the liver and gallbladder into the small bowel and cause pain, jaundice, and sometimes severe infections of the bile duct (cholangitis). Although there are relatively minimal invasive biliary clearance procedures like endoscopic retrograde cholangiopancreatography (ERCP), this technique is usually difficult in patients with stones larger than 10 mm and multiple bile duct stones. In this case we aimed to report a studded multiple biliary ductal calculi (3.5 cm × 2.5 cm) involving Right and Left hepatic duct as well without jaundice, which is unusual presentation in surgical practice.

**Key Words:** Biliary Calculus, Obstructive Jaundice, ERCP.

## Introduction

Cholelithiasis and choledocholithiasis is one of the most common diseases with symptomatic or asymptomatic patients requires surgical intervention. The management of concomitant gall bladder and common bile duct (CBD) stones has evolved significantly. In recent years widespread use of high resolutions imaging techniques to investigate the causes of abdominal symptoms has resulted in increased reporting of bile duct (BD) dilatation in symptomatic as well as asymptomatic patients. Many a time presents with jaundice with altered liver function tests, rarely without jaundice with normal liver function test. Following rapid uptake of endoscopic retrograde cholangiopancreatography (ERCP), Open CBD Exploration (OCBDE) was reserved for patients who failed ERCP. However endoscopic techniques have lower success rates in common bile duct (CBD) stones larger than 10 mm in diameter and especially

ones larger than 15 mm in diameter and need some form of lithotripsy to facilitate removal. A multiple studded biliary calculus is rarely seen in surgical practice. Actual incidence rates are not known. In this case, we aimed to report a multiple studded biliary stone largest measuring (3.5 cm × 2.5 cm) involving Right and Left hepatic duct as well surprisingly without jaundice.

### Case report:

71/F C/o Abdomen pain associated vomiting since 10days, with no history of jaundice. No known comorbidities. On examination, the Patient was conscious, well oriented, afebrile and vitally Stable. Per abdomen - Tenderness present in right hypochondrium and epigastric region.

Liver Function – Total Bilirubin – 0.86 gm/dl, Direct Bilirubin – 0.39gm/dl, ALP – 615 IU/L, MRCP-The right hepatic duct (18mm), the left hepatic duct (17 mm), the common hepatic duct (28mm) and the common bile duct (27 mm) appears dilated. Multiple large filling defects are noted in the common bile duct, common hepatic duct extending into bilateral hepatic duct largest of size measuring approximately 3.5\*2.5 cm in common bile duct. Mild to moderate dilatation of intra hepatic biliary radical dilatation gall bladder is well distended showing few filling defects (2-3mm).

### Result:

Plan of management- Cholecystectomy +CBD Exploration with biliary drainage procedure.

Intraoperative finding - The gall bladder was distended with palpable stones in it. Biliary passage was seen to be enormously dilated and thickened with a hard mass felt in its entire course extending from porta hepatis down to the duodenum. The cholecystectomy done followed by common bile duct explored. Multiple irregular brownish pigmented calculi found extending till origin of hepatic duct calculi extracted throughout biliary passage and patency confirmed.

Choledocho-duodenostomy done. Post operative phase was uneventful.

Patient was discharged on POD 8. Currently the patient is being followed up once in every 6 months.

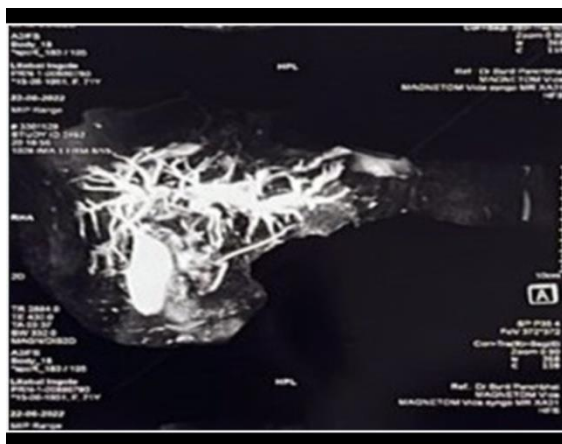


Fig-1 MRCP image showing Dilated intrahepatic and Extrahepatic radicals with multiple studded stones.

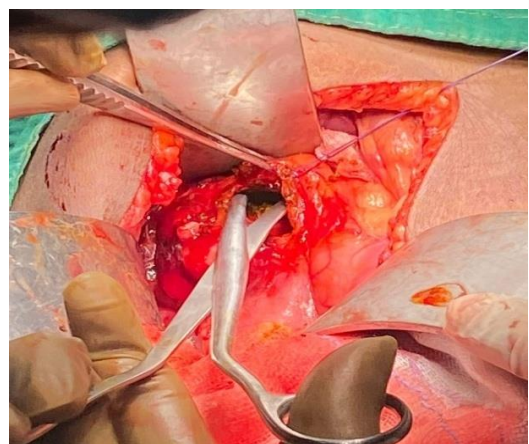


Fig:-2 Intra-operative Image showing grossly dilated CBD with stone retrieval while CBD exploration



Fig-3 Image showing intraoperative choledochoduodenostomy



Fig-4 Image showing gallbladder with various size Biliary retrieved stones.

## Discussion

Cholelithiasis is a condition in which stone in CBD formed in gall bladder which passes through the cystic duct. Intra hepatic stones are common in Asia. Stones rarely originate in hepatic or common bile duct in western countries.

Jaundice can be of Non obstructive or Obstructive of the Intrahepatic or extra hepatic biliary tree. Condition causing bile flow obstruction can be (1) Complete Obstruction, patient presents with clinical jaundice (2) Intermittent Obstruction, may experience symptoms (pain, pruritus, fever) and biochemical changes without experiencing clinical jaundice (3) Chronic Incomplete obstruction or (4) Segmental obstruction.(5,6)

Primary cholelithiasis refers to stones formed directly within the biliary tree, while secondary cholelithiasis refers to stones migrated from the gallbladder. Stones in CBD may reach very considerable dimensions with or without causing symptoms. The most common symptom is jaundice, but in these case patient presented without any signs and symptoms of jaundice and cholangitis.

Although most patients with cholelithiasis are symptomatic occasional patients are asymptomatic and pose diagnostic and therapeutic dilemmas. In asymptomatic patients the diagnosis may be suspected because of abnormal liver function tests. An elevated alkaline phosphatase gives the highindex of suspicion for a biliary obstruction[10], Since liver tests may be elevated due to wide variety of etiologies, negative predictive value of normal liver test is high. Thus normal liver test play a great role in excluding cholelithiasis than elevated liver test play in diagnosing stones. Abnormalities seen on imaging studies obtained as incidental finding or when an intraoperative cholangiogram obtained during cholecystectomy suggest presence of biliary duct stones.

The serum hepatobiliary biochemical values and bile duct dilatation reported on USG is generally verified and further investigated using MRCP/EUS depending upon clinical suspicion, patient factors [8]. MRCP is an excellent non-invasive modality for diagnosis of various pathologies causing CBD dilatation with its diagnostic results being comparable to ERCP [7]. Failure of ERCP to extract stones occur with impacted large (>15 mm), multiple (>3) or intrahepatic/extrahepatic duct/cystic duct stones)difficult stones (i.e Mirrizi's syndrome, stricture of the lower CBD [4]. In our case, because of the excessive dilation of CBD with studded multiple calculi >3cm all through the extra hepatic biliary passage till ampulla of vater, CBD exploration with bilioenteric-anastomosis was the most suitable surgical procedure[2].

## Conclusion

Biliary ductal stones are often complicated by obstructive jaundice with or without superadded infection (cholangitis) or pancreatitis. Patients with asymptomatic bile duct stones are at a risk of developing these serious complications and require intervention. We have reported an unusual presentation of multiple studded biliary calculus without obstructive jaundice at age of 71 which to our knowledge is one of few reported in literature studies. Endoscopic techniques have lower success rates in common bile duct (CBD) stones larger than 10 mm in diameter and especially ones larger than 15 mm in diameter.Common Bile Duct Exploration (CBDE) was reserved for patients who failed ERCP.

## Conflict of Interest

The authors declare that they have no conflicts of interest

## Data Availability

All information regarding the patient can be found in the hospital MRD and PACS.

## Ethical Approval

No Institutional Review Board is required for the publication of a case report at our institution.

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