



## Neglected CBD Stent- A rare case report

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### ABSTRACT

Stentolith also known as stent-stone complex of common bile duct is rare long-term complication of forgotten or retained stent. Most common long-term complication of retained common bile duct stent is cholangitis with stone. We reported a 60 years old female presented with cholangitis and having history of ERCP and laparoscopic cholecystectomy 7 and 5 years ago respectively. MRCP shows dilated CBD, CHD, central and peripheral IHBR with a tubular filling defect of 8.2 cm in CHD, CBD and extending up to 2nd part of duodenum and also a small filling defect in cystic duct remnant. Patient underwent for open CBD exploration. Retained stent and multiple stones are removed. She had an uneventful post-operative course. Patient should be advised for regular follow up and stent removal after 6 weeks..

**Key Words:** Stentolith; Common bile duct (CBD); Cholangitis; ERCP; Stent removal.

### INTRODUCTION

10–12% patients who undergo cholecystectomy for symptomatic Cholelithiasis Common bile duct stones are also found and are the most common reasons for endoscopic retrograde cholangiopancreatography (ERCP). ERCP with endoscopic sphincterotomy and basket or balloon extraction are well-established therapeutic techniques for the treatment of choledocholithiasis<sup>(1)</sup>. Usually, stents are removed after 3-6 months of placement to avoid complications. Forgotten or retained stents in biliary ducts for a prolonged period can lead to serious complication such as occlusion, migration of the stent or cholangitis<sup>(2)</sup>. Currently the standard practice of management of such cases includes ERCP guided sphincterotomy (EST) and stone extraction with a success rate of 85% to 95%<sup>(3)</sup>. Failed stone clearance at ERCP happens commonly due to large and impacted stones and/or coexistent narrowing of the distal bile duct. In some rare cases, the stent itself becomes the nidus for further stone formation, giving rise to a stent-stone complex or stentolith. Stentolith refers to a large concretion of precipitation of crystals and cellular debris looking like a stone formed around a long-standing biliary stent, especially a forgotten stent.

### CASE REPORT

A 60yearsold female presented with complaints of recurrent right upper quadrant pain, fever and since-2 months. She had history of ERCP with stent placement for choledocholithiasis 7 years ago and open cholecystectomy for symptomatic cholelithiasis 5 years ago. Haemoglobin was 10.9gm/dl, Total leucocyte count - 7700/cumm, platelet- 3.6 lac/cumm, SGOT- 329, SGPT- 531, Alkaline phosphatase-691, S. Bilirubin Total-0.9, Direct- 0.3. Ultrasound abdomen shows dilated CBD (19mm) and multiple CBD stones. MRCP shows dilated CBD (15mm), CHD(19mm), central and peripheral IHBR with a tubular filling defect of 8.2 cm in CHD, CBD and extending up to 2<sup>nd</sup> part of duodenum and also a small filling defect (6.6mm) in cystic duct remnant. Patient was advised for ERCP but she refused and requested for open surgery. She underwent for open CBD Exploration. Intraoperatively dense adhesion seen in calot triangle with duodenum and colon. Careful dissection leads to identification of CBD. Multiple stones and infected bile came out and stent was impacted. Stent and multiple stones were removed. She had an uneventful post-operative course. On 10<sup>th</sup>

Postoperative day T- tube cholangiogram was done and it was normal. Patient was discharged on postoperative day 15. At her first follow-up after 1 week, she had normal liver function tests and felt much better.

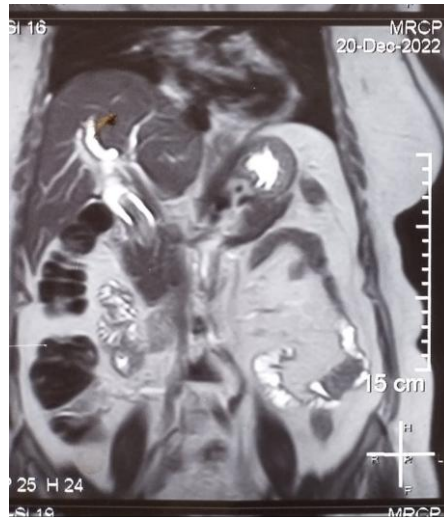


Image 1. MRCP shows- CBD Stent in situ



Image-2. Impacted stent

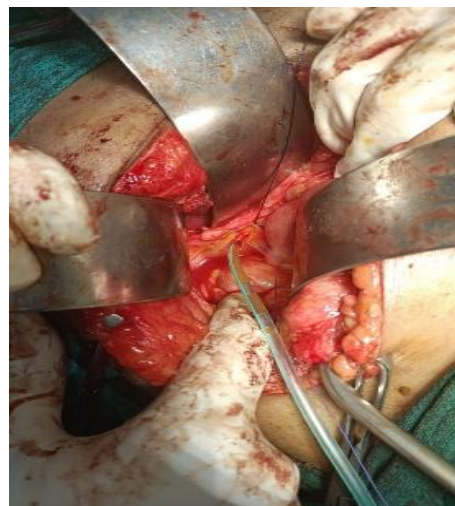


Image-3. Intraoperative image



Image-4. T tube cholangiogram

## DISCUSSION

In patients with gallbladder stones, 10–15% of them will have concomitant CBD stones<sup>(4)</sup>. Rarely bile duct stones may form primarily as intrahepatic or extrahepatic stones without originating from the gallbladder. CBD stones originating from the gallbladder are called secondary bile duct stones and those that formed primarily in the biliary ducts are called primary bile duct stones<sup>(4-6)</sup>. Patient with forgotten stents commonly present with abdominal pains, obstructive jaundice and cholangitis. They usually have deranged liver function tests and dilated biliary tracts on abdominal ultrasound<sup>(4,7,8)</sup>. In our case also patient presented with cholangitis. Biliary stents are foreign bodies and, therefore, form a nidus of infection particularly if not removed within 3-6 weeks from insertion<sup>(6,7)</sup>. The de novo formation of biliary stones around the stent was reported<sup>(4)</sup>. In our case biliary stones are also presents with impacted stone. These may lead to a stone-stent complex. Bansal and his colleagues were the first to term this complex stentolith in 2009<sup>(7)</sup>.

Endoscopic sphincterotomy and stone extraction as a treatment modality for CBD stones clearance is successful in 80–90% of cases<sup>(8,9)</sup>. There is very little information in the literature regarding forgotten biliary stents except for a few case reports. Some of these cases fail endoscopic management necessitating open surgery. The largest case series of five patients was reported by Odabasi and colleagues<sup>(8)</sup>. In their case series, two patients were managed with cholecystectomy + CBD exploration + T-tube, one successfully managed with ERCP, one with Hepaticojejunostomy and the other with Choledochoduodenostomy. In our case CBD exploration with T-tube placement was done. However, this management modality often fails in forgotten stents necessitating open surgery. Forgotten stents can cause serious complications.

## CONCLUSION

Endoscopic placement of the stent is a simple and safe method, but after insertion, all patients should be informed to be having biliary stents and of the possibility of complications if ignored/ lost follow up. These can vary from stent migration to visceral perforation and formation of stentolith as our study case. The low understanding, noncompliance to follow up and rural background of our patients makes it more difficult to maintain timely follow up of patients. As the stent may get impacted or broken or migrated, an endoscopic removal may not be successful in such cases, mandating surgery. Patient should be advised for regular follow up and stent removal after 6 weeks.

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