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## **Retained double CBD stent with calculus cholecystitis**

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### **Abstract**

**Introduction:** Inflammation of Gallbladder (cholecystitis) occurs commonly due to obstruction of cystic duct usually by gall stones (cholelithiasis). It is challenging to clinically differentiate Calculus cholecystitis from choledocolithiasis as both conditions have similar presentation but differ widely in management protocols. Laparoscopic cholecystectomy is sufficient in the former while if the latter is suspected, endoscopic retrograde cholangio-pancreatography (ERCP) and common bile duct (CBD) stent needs to be placed which if failed to remove in time might present with complications due to biliary stasis.

**Case Presentation:** Here we report a similar case of a 36year male patient having retained double CBD stent (for 22months) with calculus cholecystitis and choledocolithiasis.

**Discussion:** Stents may remain without complications or may migrate, and rarely form nidus for stone formation. If kept for long time they lead to bacterial proliferation, biofilm formation and precipitation of calcium bilirubinate presenting as fever, pain, jaundice. Stent-stone complex can be treated endoscopically and surgically<sup>[6, 7]</sup>. As stent can cause stone formation, infection and other complications, timely removal of stent should advised.

**Conclusion:** III-effects of stent in-situ should be explained, record should be maintained<sup>[8]</sup> and patient should be advised regular follow up and stent removal after 6 weeks.

**Keywords:** cholecystitis, choledocolithiasis, Laparoscopic cholecystectomy, ERCP, CBD Stenting, retained double CBD stent

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### **Introduction**

Cholecystitis is inflammation of the gallbladder that occurs most commonly because of an obstruction of the cystic duct by gallstones arising from the gallbladder. Earlier, open cholecystectomy with CBD exploration was performed for CBD stones. Nowadays, ERCP is the procedure of choice to rule out CBD stone. ERCP guided endoprosthesis placement plays an important role in the management of various obstructive pancreato-biliary diseases. For irretrievable biliary duct stone, stent is kept in situ for 4–6 weeks and then removed post laparoscopic cholecystectomy. If the stent is left in situ, it may lead to complications due to biliary stasis, CBD stricture or rarely choledochoduodenal fistula.



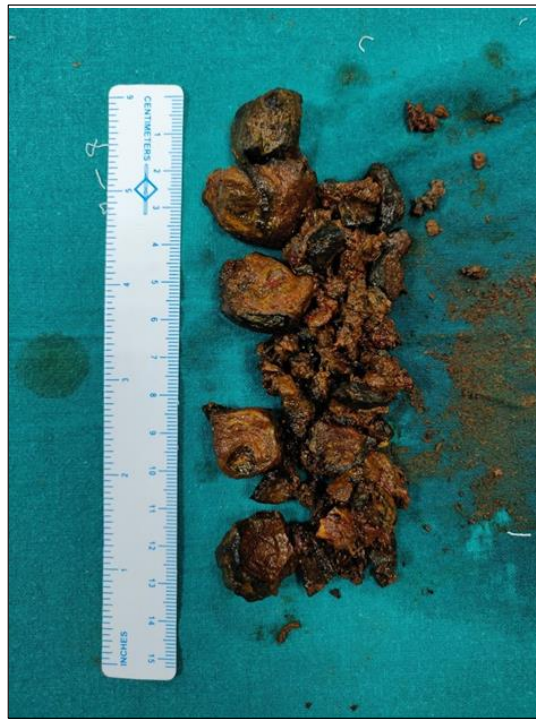
**Fig 1**



**Fig 2**



**Fig 3**



**Fig 4**

### **Case Report**

Our 36year old male patient presented with complaints of right upper abdominal pain, non bilious vomiting, fever and yellow discoloration of sclera and urine since the last 10 days. On examination, the patient was in septicemia with severe icterus and had right hypochondrial tenderness.

Past history was suggestive of obstructive jaundice for which the patient underwent ERCP and stenting 2 years ago. The patient did not show up for any follow up until 1 year ago when he re-developed jaundice and was operated for open cholecystectomy at another primary health care center. The patient remained asymptomatic for another 10 months until this time.

Biochemical investigation showed total bilirubin- 11.04 mg/dl (direct-10.6mg/dl, indirect 0.4mg/dl), raised alkaline phosphatase (1250IU/L) and raised SGPT (121IU/L). Blood indices showed raised total leucocyte count (37,000/mm<sup>3</sup>) and decreased platelet count (73,000/mm<sup>3</sup>). Coagulation profile was altered (PT- 24/14).

The ultrasonography of the abdomen was suggestive of distended gall bladder with multiple calculi having average size of 6-7mm and thickened wall of 8-9mm. CBD was dilated measuring 47mm at the porta having sludge and calculi of 55x27mm extending into common hepatic duct and also showing the stent. Hepatic ducts were dilated (right- 35mm, left 26mm, common hepatic duct 47mm). After vitally stabilising the patient, open cholecystectomy with CBD exploration was planned. Intra operatively, dense adhesions were present in the calot's triangle. Multiple gall stones were present. Cholecystectomy was done and CBD opened. 2 stents were removed from CBD along with multiple stones and sludge from CBD, right and left Hepatic ducts. Patency of distal CBD confirmed and T-tube was placed. Postoperative course was uneventful and the patient was discharged on day 10. T-tube cholangiogram was performed on postoperative day 21 which showed contrast entering in duodenum and hence, t tube was removed. Patient was followed up for 2 months. Presently the patient has no complaints.

### **Discussion**

Primary choledocolithiasis is formation of stone in CBD whereas retained CBD stones are stones found in CBD within 2 years of cholecystectomy.

The first CBD exploration was done by Knowsley Thornton in London on May 9, 1889. For small CBD stones, extraction with ERCP and dormia basket is a highly effective procedure. Endoscopic papillary large balloon dilation is performed for large and difficult CBD stones. Post ERCP, patients need to be followed up regularly until the stent is removed. If the stent is left in situ, it may result in biliary stasis. Some cases can be asymptomatic where as others may result in cholangitis, stent stone complex formation, CBD stricture, acute pancreatitis or choledocoduodenal fistula.

### **Conclusion**

All patients with stent in situ should be followed up regularly and timely removal of stent should be advised. If the stent is not removed in time, complications ranging from jaundice to septicemic shock can occur. Management in such conditions include emergency open cholecystectomy and CBD exploration.

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