

Extraction of Large CBD Stones by Open Method

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Abstract

For complicated common bile duct stones (CBDS) that cannot be extracted by endoscopic retrograde cholangiopancreatography (ERCP), management can be safely by open or laparoscopic CBD exploration (CBDE). The study aimed to assess these surgical procedures after endoscopic failure.

Common bile duct stones (CBDSs) may occur in up to 6%–10% of all adult patients for whom cholecystectomy is performed. Patients presenting with CBD stones have symptoms including: biliary colic, jaundice, cholangitis, pancreatitis or may be asymptomatic. The clinical presentation of the patient, number of stones, size of CBD, available resources and technical expertise at hand are an important consideration for the ideal management in different conditions.

Key Words- CBD stones , ERCP, open cholecystectomy

AIM – The aim of the study was to deal with large and difficult gall stones.

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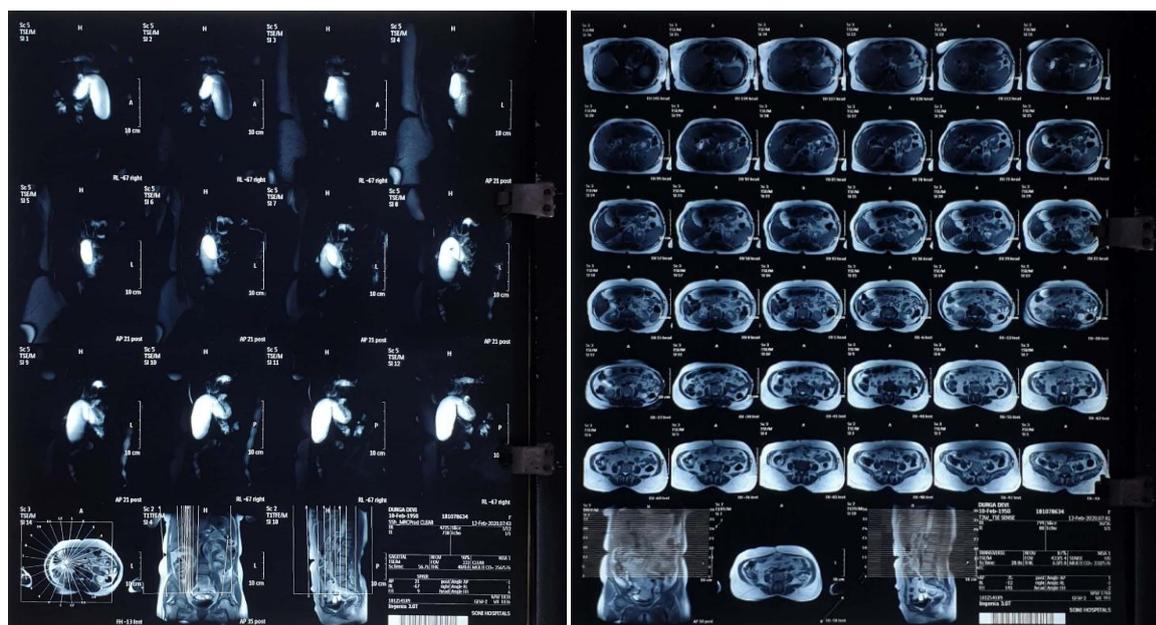
I. Introduction

Common bile duct stones have been a challenge to the surgeons since many years. The common bile duct is explored in approximately 15% of all cholecystectomies and the stones are removed in 65% of these explorations. The incidence of concomitant common bile duct stones varies between 8% to 20%. Laparoscopic Cholecystectomy has superseded open cholecystectomy as the preferred method. One limitation of laparoscopic cholecystectomy as preferred to open cholecystectomy is in dealing with common bile duct stones. Laparoscopic CBD exploration is time consuming, needs more hard ware, is an intensive procedure, and risks injury to Common bile duct. Another alternative in the management of patients with CBD stones is endoscopic retrograde cholangiopancreatography.

II. Case Report

A 75 year old female patient came to our out patient department With a complain of pain abdomen and vomiting since last one and a half months. Initially her symptoms were mild in nature like she used to get pain abdomen and feeling of nausea only on eating oily and fatty food, and the pain used to occur for around half an hour after the food. And it used to occur 2 to 3 times daily , for this she went to the local doctor , got some medications and used to get relief of her symptoms. But now since the last 20 days her symptoms have got aggravated and used to have pain for almost the whole day and now also complains of increasing frequency of vomiting which was greenish in color. She also complains of mild fever on and off. On 11th february 2020 she got a MRCP done which revealed –

1. Dilatation of the IHBR
2. Gall bladder is distended with bile. No stones seen in gall blaader.
3. Multiple stones are seen in cystic duct , right and left hepatic duct, common hepatic duct and CBD , size of largest stone is 24 mm.



Then on 13th march 2020 she underwent ERCP which revealed as –
 - Extra hepatic biliary obstruction , CBD stones, CBD not cleared and 7fr DPT stent placed.
 After the ERCP procedure patient started having vomiting and diarrhoea.

SURGERY

The patient was placed in the supine position with the surgeon on the right side of the patient. Right subcostal incision was given and it was deepened to open all the layers of the abdomen. A long gall bladder was seen and hugely dilated CBD was also seen in the right subhepatic region. On manual palpation CBD was full of hard stones which were very large in size and were multiple in number. Gall bladder was also manually palpated but no stones were felt in it. Then a 4cm longitudinal incision was given on the CBD to explore it . After the incision was given multiple large size black pigmented stones were seen which were extracted one by one by using desjardinsforcep. And then CBDwas again checked for any remaining stones. There after cholecystectomy

was done , the length of the gall bladder was measured which came out to be 28 cm. Then T-Tube was place and then the CBD was closed , one drain was placed in the morrison's pouch. Then finally all the layers of the abdomen were closed and skin was sutured.





III. Discussion

Various options for managing CBDS are available such as ERCP, LCBDE, and OCBDE [2,3]. However, ERCP followed by LC for managing concomitant gallbladder and CBDS is currently the preferred method in the majority of hospitals worldwide [1]. Similarly, it is the preferred method in our institute.

ERCP failure to extract stones may be due to failed cannulation (i.e., Juxta-papillary diverticulum, intra-diverticular papilla or small papilla), or failed extraction [[4], [5], [6], [7], [8]]. The failed extraction occur with difficult stones (i.e. Mirizzi's syndrome, stricture of the lower CBD, impacted, large (<15 mm), multiple (<3), or intrahepatic duct/cystic duct stones), especially when using standard methods (balloon or basket after ES or endoscopic papillary balloon dilatation (EPBD)) [9,10]. In our study, failed cannulation, very large (2.4 cm), multiple large, and/or impacted large stones were the causes of ERCP failure.

When CBDS clearance become unsuccessful, temporary stenting can serve as a bridge preventing stone impaction and cholangitis by relieving biliary obstruction and ensuring biliary drainage for further planned endoscopic stone removal or operation [3,5]. Furthermore, biliary stenting has some therapeutic benefit in case of difficult stones (i.e. difficult stones become smaller, fragmented and easier to remove at repeat ERCP or even absent after a period of stenting) [11]. Similarly, in our work, with failure of stone extraction after successful cannulation were managed with CBD stents put beside stones for drainage and possible stone fragmentation till further planned endoscopic or surgical extraction. After ERCP failure, the treatment options are either LCBDE or OCBDE. Despite development in endoscopic and laparoscopic techniques, OCBDE is still the choice in some hospitals in developing countries[12]. Similarly, after failure of ERCP, OCBDE was the main procedure in our institution.

IV. Conclusion

Treatment of the bile duct stones can be performed as open cholecystectomy plus open CBD exploration, laparoscopic cholecystectomy plus laparoscopic common bile duct exploration (LC+LCBDE), or precholecystectomy or postcholecystectomy ERCP in two stages usually combined with either sphincterotomy (commonest) or sphincteroplasty (papillary dilatation) for CBD clearance.

However in our case the size of the cbd stones was very large (2.4cm) so it was not feasible to remove them via laparoscopy so we went for open cholecystectomy with open cbd exploration.

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