

A Prospective Analytical Study About The CBD Stones

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Abstract: Calculus disease of the biliary tract is one of the most common problems affecting the digestive tract. It accounts for more than 95% of calculus disease which include cholelithiasis and choledocholithiasis. Choledocholithiasis is associated in 10-15% of patients with cholelithiasis. Its incidence in India is increasing, due to the change in lifestyle and dietary modifications. Primary bile duct stones are of brown pigment type. Secondary bile duct stones are those migrating from the gall bladder and its major component is cholesterol variety. Patients admitted in various surgical units of GRH, Madurai between September 2010- Nov. 2011 encompass the materials of this study. A total of 58 patients with CBD stones included. Slight Female preponderance was observed. Most of the CBD calculi cases were presented with obstructive symptoms i.e. jaundice, pain. USG had an accuracy rate of 70%. Mixed stones were the commonest variety (pigmented stones - dominant type). Open CBD exploration with T tube drainage is commonest procedure adopted for CBD calculi. Endoscopic sphincterotomy with stenting was done in patients with poor risk, recurrent or retained stones.

Keywords: Choledocholithiasis, CBD Exploration, Endoscopic Sphincterotomy, Jaundice, Pain

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I. Introduction

Calculus disease of biliary tract is one of the most common problems affecting the digestive tract. Among the calculus disease of the extra – hepatic biliary tract account for more than 95% which includes cholelithiasis and choledocholithiasis. Autopsy reports have shown a prevalence of gall stone disease in 11% - 36%. Calculus disease of the biliary tract once more common in the western world, the incidence is increasing noticeably in India, which can be attributed to the change in dietary habits and lifestyle modifications. Although the exact incidence in India is not known, there is an approximate of 4% prevalence rate in Indian males & 6% in Indian females. Thanks to the extensive studies of etiology of extrahepatic biliary calculi [1], better understanding of pathogenesis and technological advancements [2] in past three decades, which have led to more appropriate and effective ways of management. Continued research on minimal invasive surgery especially after 1988 with advent of laparoscopic cholecystectomy followed by laparoscopic CBD exploration, endoscopic management of CBD calculi [3], extra – corporeal shock wave lithotripsy has greatly improved and modernized the management of extra hepatic biliary calculi with minimal mortality and morbidity.

II. Aims And Objectives

To evaluate age, sex incidence, most common etiological factors for common bile duct calculi. To epitomize varying clinical presentation. To study various modes of management adopted in our institution. To analyze biochemical types of stones prevalent in this part of country.

III. Materials And Methodology

Patients admitted in various surgical units of Government Rajaji Hospital, Madurai between September 2010 to November 2011 encompass the materials of this study. All patients admitted with clinical diagnosis of CBD calculus and its complications were taken into account of this study. A total of 58 patients were studied. A detailed history including dietary factors, life style habits, were elicited in all patients and thorough clinical examination was done in them. All patients were subjected to basic blood, urine and biochemical evaluation including liver function test and USG abdomen. In selected patients CT scan abdomen, MRCP were pursued. Patients were managed surgically. Operative findings were documented and analyzed. Epidemiological factors relevant to age, sex distribution were noted. CBD calculi were subjected for biochemical analysis to look for their composition. In icteric patients, prolonged prothrombin time was corrected by Vitamin K IM injection for 3 days prior to surgery.

For CBD calculi, open CBD exploration was done and drainage procedure was done either in form of T tube or biliary enteric anastomosis. For those patients with associated gall stones, open cholecystectomy was

performed[4]. All patients had received peri operative antibiotics. Those with CBD diameter of >1.5 cms are subjected to biliary enteric anastomosis.

IV. Observation And Results

In this study, increased incidence of CBD stone disease was between 41-50 years. In this study, almost all the patients have right hypochondrial pain and right hypochondrial tenderness. Out of this 58 cases, one patient presented with hepatolithiasis with post stented states who was managed with choledochoduodenostomy. 7 out of 58 cases (12.06%) had CBD stone associated with gall stones. 9 (15.5%) cases were diabetic, 34 (58.6%) cases were obese. 54 cases had elevated serum bilirubin, 56 cases had elevated serum Alkaline phosphatase, 34 cases had elevated serum cholesterol. 19 (32.7%) patients had single stone, 39 (66.2%) patients had multiple CBD stones. 3 (5%) cases had cholesterol stones, 7 (12%) cases had pigmented stones, 48 (82%) cases had mixed stones. Out of 58 patients with CBD calculi, CBD exploration with T tube drainage was done in 37 patients. Biliary enteric anastomosis was performed in 5 cases (Choledochoduodenostomy-4, Choledochojunostomy- 1). CBD exploration with Cholecystectomy done in 7 cases. Endoscopic sphincterotomy with stenting done in 8 patients. Sphincterotomy with balloon dilatation done in 2 patients. These Endoscopic procedure[5] done in patients with poor risk, in retained or recurrent stones cases and in severe pancreatitis. Biliary enteric anastomosis was done because of large CBD diameter and presence of multiple CBD calculi. Right flank drain was kept in all cases of CBD exploration.

Post Operatively, oral started once ileus gets relieved. At the end of 14 days, 'T' -tube cholangiogram[6] was done after clamping and observed for pain after that 't' - tube removed. 4 patients had post operative biliary leak both after CBD exploration[7], Presented with bilious fluid in drainage tube, which was of low volume and settled with conservative management. No iatrogenic bile duct injury in our series as compared to 0-0.7% injury in various large studies. No mortality reported in our series

V. Conclusion

CBD calculi is one of the most common disease affecting the digestive tract. About 10- 15% of patients with CBD stones are associated with cholelithiasis. They are detected with greater frequencies with advent of USG and CT scan. Age incidence varies between 21 & 83yrs and mean age of incidence is 45yrs. Patients of 4th and 5th decade were the commonest victims. Slight female preponderance was observed in our study. Most of the CBD calculi cases were presented with obstructive symptoms i.e. jaundice, pain USG had an accuracy rate of 70% in our series. Mixed stones were the commonest variety in our study of which pigmented stones is the dominant type. Open CBD exploration with T tube drainage is commonest procedure adopted for CBD calculi in our series. Endoscopic sphincterotomy[8] with stenting was done in patients with poor risk, recurrent or retained stones. Mortality rate in our study is 0%.

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