

STUDY OF CHANGE IN COMMON BILE DUCT CALIBRE AFTER CHOLECYSTECTOMY

General Surgery

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ABSTRACT

BACKGROUND:-Cholecystectomy as a factor causing change in common bile duct diameter has been the topic of debate for most surgeons. The aim of this study is to observe the size of Common bile duct (CBD) in patients before and after cholecystectomy.

METHODS AND MATERIALS:- We prospectively analyzed 60 patients who underwent cholecystectomy in RIMS, Ranchi, in Dept. of Surgery from 01/10/2017 to 01/04/2019. Pre operative CBD calibre measurements by ultrasound were compared with measurements taken at 1-month, 6-months and 12-months from the day of surgery. Thus we looked for any compensatory dilatation of CBD if present.

RESULTS:- In only 3 out of 60 patients significant dilatation of CBD was seen. Although a trend towards minor dilatation was observed in the rest. Mean CBD preoperatively 4mm. Mean CBD at 1-month after surgery 4.7 mm, mean CBD at 6-months 5.8 mm, mean CBD at 12-months 6.0mm.

CONCLUSION:- CBD dilatation within 10mm in gall bladder resected patients can be regarded as normal physiological change.

KEYWORDS

Cholelithiasis; USG; Cholecystectomy; CBD Dilatation

INTRODUCTION

Normal Common bile duct (CBD) Length 7 to 11 cm and Diameter 5 to 10 mm. According to hypothesis given by Oddi, physiological dilatation of bile duct after cholecystectomy is due to the disappearance of Gall bladder reservoir function. As abdominal USG examinations are frequently performed, bile duct dilatations are incidentally found in gall bladder (GB) resected patients. When bile duct dilatation is found in asymptomatic patient, it is often difficult to differentiate between physiological change of GB resection and early findings of bile duct lesions. Most of the reported studies are based on western population. Aims and Objectives of study is to determine the physiological change of bile duct calibre by measuring the diameter of the common bile duct in patient who had cholecystectomy and to find the frequency and degree of CBD dilatation after gall bladder resection with respect to factors like age, sex etc.

MATERIALS AND METHODS

SOURCE OF DATA-Patients admitted in department of surgery in Rajendra Institute of Medical Sciences, Ranchi, for cholecystectomy from 01/10/2017 to 01/04/2019.

INCLUSION CRITERIA-Patients who underwent cholecystectomy for indications like acute cholecystitis, chronic cholecystitis, cholelithiasis or GB polyp.

EXCLUSION CRITERIA:-

1. H/O jaundice or pancreatitis.
2. patient with abnormal liver function test.
3. presence of CBD calculi on investigation or intra operative.
4. patient with previous H/O ERCP done.
5. patient with bile duct diameter more than 7 mm.
6. Patient not present during follow up period.

The sex, age and diagnosed disease of the patients were investigated. CBD diameter was measured preoperatively, by means of ultrasonography and also in the follow up period at 1-month, 6-months and 12-months from the day of cholecystectomy.

The CBD diameter was measured in 0.1 mm scale at the widest point of extra hepatic bile ducts.

The normal range was defined to be less than 7 mm and the frequencies of being less than 5 mm, 5.1-6.9 mm, more than 7 mm were measured.

OBSERVATION AND RESULTS

Time	< 5 mm CBD diameter patients	5.1-6.9 mm CBD diameter patients	>7 mm CBD diameter patients	>10 mm CBD diameter patients	Total no. of patients
Pre-op	49	11	0	0	60
Post op. 1 month	45	13	2	0	60
Post op. 6 months	26	24	10	0	60
Post op. 12 months	17	25	15	3	60

Table shows Change in CBD diameter at 1-month, 6-months, and 12-months compared with pre-op diameter.

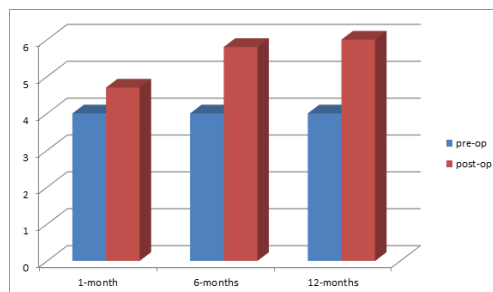


Chart shows mean CBD diameter change in mm during follow up periods.

DISCUSSION

The hypothesis of bile duct dilatation as a physiological change that results from the resection of gall bladder was initiated in 1880's.

Introduction of USG enabled direct measurement of CBD diameter, and the occurrence of physiological change of bile duct was confirmed by a cross sectional study.

Our study showed minor duct dilatation after GB resection. Only limited number of patients showed dilatation higher than the normal range.

Patients in whom dilatation was observed were found to be asymptomatic with normal LFT.

Although there is no official guideline, a bile duct diameter of less than

7mm is generally considered to be normal size in adults patients. Bile duct size is not largely affected by age, sex, body weight and height of patient.

In our study, 7 to 10mm dilatation was observed in only 30% of total patients at the 12-months follow up period..

Although a trend towards minor dilatation was observed, significant dilatation(>10mm) of CBD was seen in only 3 out of 60 patients at the 12-months follow up period.

Mean CBD preoperatively- 4mm, mean CBD at 1 month -4.7mm, mean CBD at 6 months- 5.8mm and mean CBD at 12 months -6mm.

CONCLUSION

CBD dilatation within 10mm in gall bladder resected patients can be regarded as normal physiological change. Dilatation in CBD may acts as reservoir.

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