

STUDY TO ASSES DIFFICULT LAPAROSCOPIC CHOLECYSTECTOMY IN PREOPERATIVELY SONOLOGICALLY PROVED CONTRACTED VS DISTENDED GALL BLADDER

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Article Received on 10/02/2021

Article Revised on 01/03/2021

Article Accepted on 21/03/2021

ABSTRACT

Background: Laparoscopic cholecystectomy is a revolutionary change in the treatment of patients with gallbladder stones. Cholelithiasis is a common problem in day to day surgical practice, which has a prevalence of 10-15%. In laparoscopic cholecystectomy there are many factors which can lead to laparoscopic cholecystectomy more difficult than it appears and dreaded complication of laparoscopic cholecystectomy is bile duct injury. Out of many predictors, contracted gall bladder on preoperative sonogram can predict a difficult cholecystectomy. In this study we will asses preoperative ultrasound proven contracted gall bladder for difficult cholecystectomy. To identify contracted gall bladder preoperatively ultrasonologically can be helpful for the surgeon to make safe laparoscopic cholecystectomy. **Methods:** A prospective study was carried out at IGMC Shimla, himachal Pradesh from July 2018 to Aug 2019. One hundred patients with symptomatic cholelithiasis were taken up for the study after due clearance from the institutional ethical committee. Preoperative ultrasound abdomen was performed to rule out gall bladder status whether it was contracted or distended and intraoperative difficulties were compared in a case of contracted gall bladder to distended gall bladder. **Results:** Ultrasonologically proven contracted gall bladder were associated with difficult laparoscopic cholecystectomy. **Conclusions:** Contracted gall bladder were significantly associated with difficult cholecystectomy. Preoperative identification of contracted Gall bladder can be a significant predictor for difficult cholecystectomy and will help the surgeon extra cautious during the procedure so as to minimize the complications.

KEYWORDS: Difficult laparoscopic cholecystectomy, Contracted Gall bladder, Preoperative Ultrasound Abdomen.

INTRODUCTION

Laparoscopic cholecystectomy is a revolutionary change in the treatment of patients with gallbladder stones. Mouret^[1] introduced laparoscopic cholecystectomy in 1987. Although laparoscopic cholecystectomy has numerous advantages including reduced hospitalization, decreased morbidity, short recovery time, and better cosmesis,^[2,3,4,5] it has increased risk of injury to common bile duct (CBD), duodenum, bowel, iliac vessels, and so on; high conversion rate in acute cholecystitis, and difficulty in management of simultaneous CBD stones.^[6,7,8] In laparoscopic cholecystectomy there are many factors which can lead to laparoscopic cholecystectomy more difficult than it appears and dreaded complication of laparoscopic cholecystectomy is bile duct injury. Many a times, laparoscopic cholecystectomy may need to be converted to open cholecystectomy due to poor visualisation of normal anatomy and Calot's triangle not clear. It is important in

the part of the operating surgeon to predict risk of conversion to open cholecystectomy so as to inform the patient as well as the attendants and the operating team to be ready for open cholecystectomy if needed. Out of many predictors, contracted gall bladder on preoperative sonogram can predict a difficult cholecystectomy. In this study we will asses preoperative ultrasound proven contracted gall bladder for difficult cholecystectomy.

MATERIAL AND METHODS

This work had been undertaken in Indira Gandhi Medical College, Shimla from July 2018 to June 2019. One hundred cases with Symptomatic Cholelithiasis were included in this study. Institutional ethical committee approval was taken for the study. Patients with bleeding diathesis, carcinoma gall bladder, and history of jaundice, dilated common bile duct with or without stone, emphysema gall bladder, acalculous cholecystitis and patients unfit for general anesthesia were excluded

from the study. On admission they were subjected for thorough clinical history and examination. They had undergone biochemical and radiological evaluation. On preoperative USG, special weightage to the contracted gall bladder and wall echo sign was given. These findings were recorded on preoperative performa. Intra operative findings and difficulties were observed and noted. Patients were divided as easy, difficult and conversion. Conversion was reserved for very difficult cases. Considering previous studies from the published literatures Laparoscopic cholecystectomy was considered as difficult if any of the following 4 criteria is fulfilled during the surgery.

1. Time taken from skin incision to skin closure more than 90 minutes.
2. Time taken for Callot's triangle dissection more than 20 minutes.

3. Time taken for Gall bladder dissection from gall bladder fossa more than 20 minute.
4. Conversion to open cholecystectomy due to any reason.

RESULT

Hundred (100) patients of Ultrasonographically proved symptomatic cholelithiasis, admitted in a single unit of the surgical wards of department of general Surgery IGMCM Shimla; were included in the present study. The age of our patients ranged from 10 to 78 years and mean was 46.69 \pm SD years. Seventy three were females and twenty were males. The age of the female patients ranged from 13 to 78 years with the mean age of 45.82 years. The age of the male patients ranged from 10 to 72 years with the mean age of 49.40 years.

Table 1: Age and gender distribution of patients selected in current study.

Gender	No of patients	Age		
		Range	Mean	SD
Male	27	10-72	49.40	12.621
Female	73	13-78	45.82	16.591
Total	100	10-78	46.69	13.791

In our study, on ultrasonography contracted gall bladder was seen in 37 patients. Out of these 37 patients, 24 were females and 13 were male patients.

	Male	Female	Total	Percentage
Present	13	24	37	37%
Absent	14	49	63	63%

Patients with contracted gall bladder, 24 (64.9%) patients associated with difficult laparoscopic cholecystectomy and 13 patients easy LC. Patient without contracted gall bladder with easy outcome was seen in 56 of patients and difficult outcome was seen in 7 due to other factors. The p value associated was < 0.01 which was statistically significant. There was highly significant association of contracted gall bladder with final outcome of difficult laparoscopic cholecystectomy in our study.

DISCUSSION

In our study contracted gall bladder was seen in 37 patient and out of these 24 (64.0%) were associated with difficulty in laparoscopic cholecystectomy. Various authors have reported significant correlation of contracted gall bladder with difficult laparoscopic cholecystectomy. Contracted gall bladder is a potential risk for conversion and patient having thickened gall bladder have significantly increased duration of surgery, difficult access, difficult dissection of calot's triangle, gall bladder bed dissection and extraction of gall bladder. Thus, we also noted significant association of contracted gall bladder with the difficult laparoscopic cholecystectomy (p value < 0.05).

CONCLUSION

Pre-operative identification of a difficult gall bladder helps the surgeon for further planning and to associate a experienced surgeons team to tackle with difficult cholecystectomy. Careful surgery with different modifications and keeping the patient informed about the chance of conversion. The difficult laparoscopic cholecystectomy can be predicted preoperatively in patients with contracted gall bladder.

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