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Original Research Article

Factors Responsible for Conversion of Laparoscopic Cholecystectomy to Open Cholecystectomy

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Abstract

Introduction: Laparoscopic cholecystectomy is one of the most common operations done in India especially northern part of our country. But we encountered various cases which were converted to open cholecystectomy. This study was conducted to determine the factors responsible for conversion of lap choles to open one.

Methods: This retrospective study was done at NMCH, Patna including 500 cholecystectomies performed over a period of 3 years from Sept, 2020 to July, 2023.

Result: In our study overall conversion rate was 10%. Factors of conversion to open cholecystectomy included male gender, age over 50 years, obesity, diabetes, mellitus and previous abdominal surgery and multiple episodes of cholecystectomies resulting in dense adhesion.

Conclusion: The conversion of a lap chole to an open procedure is multifactorial. Among them, male gender being the most important .previous upper abdomen surgery , CBD injury and severe inflammation and tissue adhesion are equally responsible for conversion. Advance age being the second most important factor for conversion in our study.

Keywords: Laproscopic cholecystectomy, CBD, G.B. Stone, Electrocardiography, KFT, LFT.

Introduction

G.B stone is one of the most serious problems in northern India and Lap cholecystectomy being one of the most common intra-abdominal operation performed in General surgery for symptomatic gallstone disease. A conversion of lap to open is reported to be 5-10 % in various literatures depending upon various factors. It can be either elective or enforced. The most common cause being peritoneal adhesions and inflammatory infiltration of the gall bladder. [1] The aim of our study was to find out the risk factors for the conversion of laparoscopic cholecystectomy to open surgery. For this a retrospective assessment was made.

Material & Methods

It is retrospective study involving 20 from 500 patients qualified for the treatment of cholelithiasis in the department of General Surgery at NMCH, Patna. The indication for the cholecystectomy was symptotic cholelithiasis. In all cases diagnosis of this was confirmed by ultrasound of W/A. Other investigations performed were routine blood, LFT, KFT, PTINR Thyroid profile for the pt fitness for surgery. Also x-ray chest and ECG for fitness for general anaesthesia were performed pre operatively. Prior consent for open procedure was taken in all cases for the emergency condition. The operations were done under GA following all antiseptic and aseptic precoutions

Results

Out of 500 patients of G.B stone 20(4%) patients were converted to open chole where there were 405 females and 95 males. For laparoscopy, there were 12 males and 8 females. Although the mean age of the patients in lap group was 49 years that of patients in the converted group was 52 years. History of previous surgery in the upper abdomen was in 2 patients in the converted group and 5 in laparoscopic group. Most common reason for conversion was severe adhesion in calot's triangle in 10 cases. Intraoperative haemorrhage occurred in 2 cases which was due to slippage of clip in cystic artery. Conversion due to bile duct injury occurred in 1 case which was identified intraoperatively and Roux-eny

hepaticojejunostomy was done after converting to open.

Discussions

Due to various advantages Laparoscopic cholecystectomy has become gold standard for symptomatic gall bladder disease specially gallstones.

Total 500 gall bladder disease patients were taken into study over a period of 3 years. In our study conversion rate was 4%. In a study of Roser et al rate was 5.3%. [2,3,4,5]. Advancing age >60 years had conversion rate of 10%. Sippey et al [11] reported increasing age as a factor for conversion. This can be explained by the difficult dissection due to repeated attack of acute cholecystitis resulting in thickening and fibrosis.

Another risk factor for conversion to open cholecystectomy was previously done abdominal surgery in upper abdomen(1) 5% in open group compared to lap group [12] 2.4% Akyurek et a [10] l also reported a significant conversion rate with with the history of prior abdominal surgery [6]. This was due to the inaccessibility of calot's triangle due to dense adhesion.

Conversion rate in male gender was found to be (95) 12.63% comparable to female which was [8] 1.97%. This may be due to increased severity in gall stone disease in male. Lein HH Hwang CS and others [7,9,12] also found male gender as risk factor for severe symptotic cholelithiasis. Intraoperative complications like CBD injury was reported to be in one case(5%) as risk factor for conversion to open which is also mentioned in the various literature [8]. The reason for conversion might be less expertise of the surgeon.

Acute cholecystitis leading to severe inflammation followed by increased vascularity and dense adhesion interfaces with good visualisation leading to conversion to open cholecystectomy in some cases. In our study it was 5% which was also noted in various literatures [1, 8].

Conclusion

The conversion of a lap chole to an open procedure is multifactorial. Among them, male gender being the most important .previous upper abdomen surgery , CBD injury and severe inflammation and tissue adhesion are equally responsible for conversion. Advance age being the second most important factor for conversion in our study.

The need to conversion should be considered as an attempt to avoid post operation complicationand not as a failure [1].

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