

Conversion of Laparoscopic Cholecystectomy: Experience at a Tertiary Care Centre

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Abstract:

Background: Even though laparoscopic cholecystectomy has become the customary method for treating gallstones, some incidents and complications appear rather more frequently than with the open technique. This study was conducted to analyse factors necessitating conversion to open surgery in patients with symptomatic gallbladder disease undergoing laparoscopic cholecystectomy.

Material and Methods: Medical records of 1404 patients who had laparoscopic cholecystectomy, between January 2017- December 2019, were analysed retrospectively at Jawaharlal Nehru Medical College and Hospital, AMU, Aligarh. Operative difficulties, Incidence of conversion, Reason for conversion and Intra-operative or Post-operative complications were recorded.

Results: Out of 1404 patients in the study 1100(78.53%) were female and 304 (21.47%) were male. Symptomatic cholelithiasis was the most common preoperative diagnosis seen in 1026 (73.07%) patients followed by Acute cholecystitis 262 (18.66%), Empyema gallbladder 60(4.27%) and gallbladder polyp 56 (3.98%). Mean hospital stay was 2 days in normal laparoscopic cholecystectomy whereas in complicated cases was 10 days. Conversion to open cholecystectomy was necessitated in 122 (8.68%) patients. Disturbed Anatomy or Dense adhesions at Calot's triangle was the most common cause of conversion to open surgery 64 (52.456%) followed by Empyema gallbladder 32 (26.22%) , Intra-operative bleeding 24 (19.67%) and the presence of Cholecysto - Enteric fistula 2 (1.63%).

Conclusion: Recognition of operation theatre incidents and timely intervention for intra-operative complications can cause significant reduction in morbidity and mortality. Conversion should not be considered as a complication of laparoscopic cholecystectomy.

Keywords: Symptomatic Gallstones Disease, Laparoscopic Cholecystectomy, Open Cholecystectomy.

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Introduction

Laparoscopic cholecystectomy is the gold standard procedure for treatment of cholelithiasis. First laparoscopic cholecystectomy was performed by Dr Erich Muhe in the year 1985 for removal of gall stones. [1] It is a minimally invasive procedure with a significantly shorter hospital stay and a quicker convalescence compared with the classical open cholecystectomy. However, adopting laparoscopic cholecystectomy in a treatment of symptomatic cholelithiasis introduced a new spectrum of associated intraoperative and postoperative complications. Various major and minor complications are associated with it. Some risks are more with laparoscopic cholecystectomy as compared to open cholecystectomy. [2] These complications can be divided into biliary and non-biliary. The incidence of complications associated with this procedure varies between 0.5 to 60%. [3-6] Even though there have been reports of increased complication rates,

but the morbidity and mortality associated with laparoscopic procedure is less than that of open procedure. [7]

A good and precise operative technique, careful anatomical dissection with identification of appropriate landmarks can aid in reduction of the complication rate. Cholangiography can be done if there is any confusion regarding the landmarks. [3,8,9]. Various patient and surgeon's factors are responsible for complications associated with laparoscopic cholecystectomy. The aim of present study is to evaluate the incidence and complications associated with laparoscopic cholecystectomy.

Materials and Methods:

The present retrospective study was conducted in the Department of General Surgery, Jawaharlal Nehru Medical College and Hospital, AMU, Ali-

garh, during a period of 3 years. The study was approved by the Institute's ethical board and all the patient details were kept confidential. The study was conducted from January 2017 to December 2019.

Medical records of the patients were analysed. Complete account of history was taken into consideration. For laparoscopic cholecystectomy, procedure given by Lucker was used for placement of the operation team and the site of trocar insertion was also selected accordingly. The incidence and type of intra operative and post-operative complications were recorded. A note was also given to the various risk factors that lead to complications. All the data is recorded in a tabulated form.

Results:

A total of records of 1404 patients were analysed. All the patients were aged between 18 -65 years.

There was a female predominance in our study. The mean age group was 38.21+/-1.16 years.

Table 1 shows the data regarding the operative diagnosis. Symptomatic cholelithiasis was the most common preoperative diagnosis seen in 1026 (73.07%) patients followed by Acute cholecystitis 262 (18.66%), Emphyema gallbladder 60(4.27%) and gallbladder polyp 56 (3.98%).

Table 2 showing factors necessitating conversion of laparoscopic to open cholecystectomy. Disturbed Anatomy or Dense adhesions at Calot's triangle was the most common cause of conversion to open surgery 64 (52.456%) followed by Emphyema gallbladder 32 (26.22%), Intra-operative bleeding 24 (19.67%) and the presence of Cholecysto - Enteric fistula 2 (1.63%).

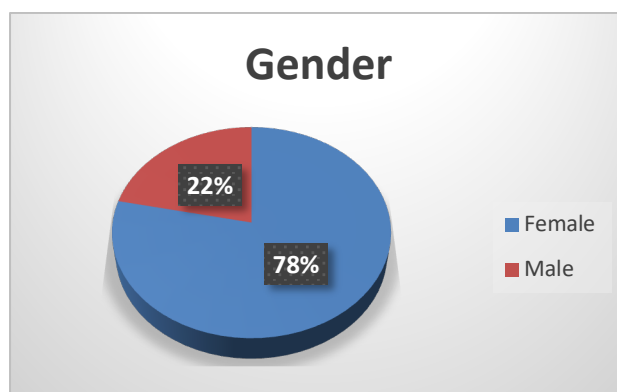


Figure 1: Distribution of Gender in studied patients

Table1: showing pre-operative diagnosis in our study.

S.NO.	Pre-operative diagnosis	Frequency	Percentage
1.	Symptomatic cholelithiasis	1026	73.07%
2.	Acute cholecystitis	262	18.66%
3.	Emphyema Gall Bladder	60	4.27%
4.	Gall Bladder Polyp	56	3.98%

Table2: showing factors necessitating conversion of laparoscopic to open cholecystectomy.

S.NO.	Factors	Frequency	Percentage
1.	Disturbed Anatomy	64	52.45%
2.	EmphyemaGall Bladder	32	26.2%
3.	Intra-operative Bleeding	24	19.67%
4.	Cholecysto-enteric Fistula	2	1.63%

Discussion:

Laparoscopic cholecystectomy is one of the routinely performed procedures of choice for cholelithiasis. Laparoscopy is done whenever cholecystectomy needs to be performed. [10] It has its own set of advantages and disadvantages. The various advantages offered by this technique are minimal hospital stay, minimum pain, rapid recovery, and early return to work. Various risk factors predispose to the complications of this

procedure. These include age, male predominance, presence of systematic diseases, increased thickness of the bladder wall, gall bladder empyema, all these predispose to the post-operative complications. [11-14] Initially complications associated with this technique were high but now they have decreased, and it carries a lower risk of morbidity and mortality compared to open cholecystectomy procedures. [15,16] According to the study by Jatzko et al [17] laparoscopic

techniques offer a morbidity of 1.9% and an open procedure offers a morbidity of 7.7%. It has been seen that acute cholecystitis is associated with maximum complications.

In the present study we observed that among the 1404 laparoscopic cholecystectomy 122 (8.68%) were converted to open cholecystectomy. Most common factor that necessitates to open cholecystectomy was Dense adhesions at Calot's triangle 64 (52.456%) followed by Empyema gallbladder 32 (26.22%) , Intra-operative bleeding 24 (19.67%) and the presence of Cholecysto - Enteric fistula 2 (1.63%).

According to a study by Duca et al [8], main post-operative complications were haemorrhage (2.3%), perforation of bladder (15.9%) and common bile duct (0.1%). In a study conducted by Rishi et al [18], the most common complication was leakage of bile (n=10) followed by subhepatic abscess (n=3). In a study by Miodraget al [19], the incidence of intraoperative complications was 13.1%. The major one was perforation of bladder, which was seen in 5.27% cases. Amongst postoperative complications the most common was intraabdominal haemorrhage, in 3.64% cases. Biliary leaks were seen in 1.89% cases and infection of wound was seen in 0.94% cases.

In this study there was no emphasis on surgeon's factors associated with complications. All the operations were performed by different surgeons.

Conclusion:

Every procedure is associated with complications. With the introduction of Laparoscopic cholecystectomy, there is a surge of newer type of complications but the morbidity associated with this procedure is low. Recognition of operation theatre incidents and timely intervention for intra-operative complications can cause significant reduction in morbidity and mortality. Conversion should not be considered as a complication of laparoscopic cholecystectomy.

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