



EVALUATION OF LAPAROSCOPIC CHOLECYSTECTOMY IN ACUTE CHOLECYSTITIS

General Surgery

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ABSTRACT

Background: Laparoscopic cholecystectomy (LC) is being performed with good results in some of the higher centers in Western countries, enough data is not available in Indian scenario. The aim of the study is to assess the outcome of LC in acute cholecystitis.

Material & Method: In this prospective study, 100 cases of acute cholecystitis underwent LC from August 2020 to December 2021 at Hind Institute of Medical Sciences, Sitapur, UP. History, general physical examination, results of lab investigations, ultrasound findings were noted down from the patient's case sheet. Operation time from onset of procedure to closure of wound, intraoperative finding and intra operative complications were recorded. Postoperatively intravenous fluids were continued up to 8 hours after surgery and antibiotics till next day morning. After surgery postoperative complications and duration of hospital stay was noted.

Result: It was found that during surgery, there was presence of phlegmon, soft and flimsy adhesions around stomach & duodenum, very fragile nature of soft tissues, difficult to hold thickened gall bladder & in 8 cases its perforation due to gangrenous wall. Post-operative hospital stay was almost the same, oozing from the liver bed & soft tissue was a common & distressing problem, it was controlled by simple pressure technique, but drain tube had to be kept longer in majority of pt.

Conclusion: LC should be adopted as it reduces the risk of complications and also the economic burden on patient and hospital resources.

KEYWORDS

INTRODUCTION:

Gallstones are present in about 10% to 15% of the adult western population. Between 1% and 4% of these adults become symptomatic in a year (the majority due to biliary colic but a significant proportion due to acute cholecystitis). Acute cholecystitis (AC) is secondary to gallstones in 90-95% of cases.¹

(AC is one of the most frequent conditions requiring abdominal surgery in emergencies in elderly people.² The current guidelines recommend surgery as soon as possible because evidenced-based clinical studies confirmed that early treatment reduces the total hospital stay and does not increase the complication or conversion rates.³

LC has become the "gold standard" due to its undeniable advantages in reducing pain and postoperative complications. Together with the development of anesthesia and intensive care skills and techniques, the safety limit for performing laparoscopy has also increased nowadays nearing the age of 80-85 years.⁴

LC achieves the goals of shorter recovery time, decreased expense, less postoperative pain and improved cosmesis. In the early years of minimally invasive surgery acute cholecystitis was considered to be a relative contraindication to laparoscopic cholecystectomy because of inflammatory changes.⁵

Although early LC is being performed with good results in some higher centers in Western countries, enough data is not available in the Indian scenario. The aim of LC is to minimize traumatic insult to patient without compromising efficacy and safety of the t/t.

The objectives of the study are as follows:

1. To determine whether lap cholecystectomy should be procedure of choice in t/t of acute cholecystitis and,
2. To determine the safety and efficacy of lap cholecystectomy for patient with acute cholecystitis

MATERIAL METHOD:

In this prospective study, 100 cases of acute cholecystitis underwent LC from August 2020 to December 2021 at Hind Institute of Medical Sciences, Sitapur, UP. A total of 492 patient were admitted in the above mentioned period and out of these 128 patient were diagnosed as having acute cholecystitis, were admitted either through emergency or OPD and were registered. Out of 128, 100 patients were found to in a

condition to be operated according to the following inclusion and exclusion criteria:

INCLUSION CRITERIA:

1. Right upper abdomen pain
2. USG findings- GB stone, acute inflammatory GB wall edema, peri-cholecystic collection

EXCLUSION CRITERIA:

1. GB malignancy
2. CBD calculus with or without jaundice
3. Portal hypertension
4. Acute pancreatitis
5. Pulmonary disease
6. Previous abdominal surgery
9. Higher ASA scoring
11. Sepsis
12. Refusal for surgery
13. Positive viral markers

An informed consent was taken from patient pre-operatively, particularly about the possibility for conversion to open surgery, if necessary. In all cases, history, general physical examination, results of lab investigations, ultrasound findings were noted down from the patient's case sheet.

All patients were catheterized injection ceftriaxone 1g given one day prior to surgery, as well as just prior to anesthesia, NG tube was put on O.T. table. Observations during surgery were noted. Operation time from onset of procedure (i.e. time since incision was given) to closure of wound, intraoperative finding and intra operative complications were recorded. Postoperatively intravenous fluids were continued up to 8 hours after surgery and antibiotics till next day morning. After surgery postoperative complications and duration of hospital stay was noted.

Data was collected and subjected to statistical analysis using SPSS software version 24.

RESULTS:

Females were comparatively more as compared to males with maximum falling in age group of 25-45yr. Acute upper abdominal pain and stone was present among all the subjects (table 1).

Table 1: Age, gender, symptoms, duration of symptoms and USG findings among the study subjects

Age in years	N=100
15-25	7
25-35	31
35-45	48
>45	14
Gender	
Male	33
Female	67
Symptoms	
Acute upper abdomen pain	100
Fever	23
Nausea	67
Vomiting	62
Palpable lump	38
Leucocytosis	81
Altered liver function	6
Duration of symptoms (in days)	
>3	43
3-5	28
>5	19
USG findings	
Distended GB	71
Thick walled GB	16
Double wall sign	18
Positive murphy's sign	5
Peri-cholecystic fluid	32
Presence of stone	100
Contracted GB	58
Pyocele	20

Many a times it was very difficult to hold GB fundus thus aspiration of latter was done to decompress and for retraction. Suction cannula was very helpful in our experience; it not only was an aid for suction of pericholic fluid but also helped in breaking the soft adhesions. Cystic duct and fibrous tissue due to edema, were very fragile so a very gentle dissection is a need of hour, there was oozing but it could be controlled. Another difficult problem was fragile nature of all tissue in callot's triangle and clips sometime teared the duct and in few cases we put silk knots for artery as well. We found 8 cases of GB perforation with gangrenous wall and in majority of these cases and they were converted to open. Pyocele possess some difficulty because of adhesions and gross oedema of neighboring organs. Duration of surgery was slightly longer and ranged from 57 to 123 minutes. Main observatory findings were fibrous filmy adhesions, very friable and fragile tissues, Phlegmon and perforation of GB with patchy gangrene, dense adhesions, especially at callot's triangle area (table 2).

Table 2: Observation and problems during surgery

Observations	N
Gall bladder Distention	73
Phlegmon	59
GB Perforation	8
Mirzzi syndrome	2
G.B Gangrene	8
Dens Adhesions	18
Soft Adhesions	83
Empyema	17
Problems During Surgery	
Oozing from Liver surface	34
Thickened gall bladder	62
Difficult callots dissection	73
Fragile tissues	51
Injury to CBD	Nil
Injury to Liver	Nil

Most common post-operative complication was pain (79%) followed by nausea & vomiting (72%) as shown in table 3.

Table 3: Post operative complications among the study subjects

Complications	N
Nausea and vomiting	72
Pain	79
Distention of Abdomen	30
Fever	5
Port site infection	2

Biliary Leakage	Nil
Removal of drain	3 days

DISCUSSION:

Laparoscopic cholecystectomy is the method of choice for surgical treatment of diseases of gallbladder. Although most surgeons today use laparoscopic cholecystectomy for the treatment of severe acute cholecystitis, many surgeons still consider acute cholecystitis a relevant contraindication for laparoscopic cholecystectomy because of "confused" anatomy and "severe" pathology. In the early days of laparoscopic cholecystectomy, acute cholecystitis was a contraindication of laparoscopic cholecystectomy, and many surgeons had believed that it was a matter of skill and training until now. However, more studies are still required for conclusive results. The aim of our prospective study was to evaluate the safety and feasibility of the procedure.

In our study; operative difficulties found during surgery was thickened gall bladder, anatomical problems, gross oedema and adhesions with stomach and duodenum. Therefore we suggest that in acute cases decompression of G.B. by aspiration, additional 5th port for retraction and suction cannula for soft adhesions along with NG tube prior to port insertion are helpful steps.

Rati et al⁶ also suggest partial cholecystectomy leaving Hartman's pouch and cystic duct after confirming the absence of distal residual structures. CK Kum et al⁷ in their study found that 46 operation to be successful and concluded to be a safe procedure. According to Miller et al⁸ and S. Botaitis et al⁹, LC in acute cases is technically difficult but safe and effective among the study subjects.

According to Al- mulhim¹⁰, elective LC can be safely performed within 72 hr. with the onset of symptoms. Same recommendations regarding the timing of LC was given by Ohta M et al¹¹ and they observed no significant difference in operating time, conversion rate, blood loss, post-op morbidity, hospital stay and concluded that 72hrs being the best time for surgery.

P Ambe et al¹² in their study reported that LC within 24hr of onset of symptoms is not superior to surgery as compared to with in 25-72hrs. Hence cholecystectomy for acute cases can safely be perform at any time within golden 72hrs.

Hence, we recommend that laparoscopic cholecystectomy can be done safely and successfully within 72 hours of presentation. There is no benefit to attempting to "cool off" the gallbladder. The message remains the same for acute cholecystitis: "get it while it is hot".

CONCLUSION:

Laparoscopic cholecystectomy is an effective and safe technique of treating symptomatic gallstones even in cases of acute cholecystitis because of accelerated recovery coupled with less postoperative pain and short hospital stay & early return to work. Early cholecystectomy should be adopted as it reduces the risk of complications and decreases the economic burden on patient and hospital resources.

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