

An Observational Assessment of the Various Indications of Laparoscopic Cholecystectomy for Acute Cholecystitis

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Abstract

Aim: The aim of the present study was to evaluate the indication of laparoscopic cholecystectomy for acute cholecystitis.

Methods: The present study was conducted in the Department of General surgery, ICARE Institute of Medical Sciences and Research & Dr. Bidhan Chandra Roy Hospital, Haldia,(W.B),and Fort U Mediemergency Hospital, Patna, Bihar, India. for 12 months. Total 100 acute cholecystitis patients at the hospital and routine daily worker of laparoscopic cholecystectomy in the Department of General surgery, ICARE Institute of Medical Sciences and Research & Dr. Bidhan Chandra Roy Hospital, Haldia,(W.B), and Fort U Mediemergency Hospital, Patna, Bihar, India . Out of 100 selected patients, 80 were males and 20 were females.

Results: The result of the study showed that the maximum patients (25%) were from the 46-50 years age group and 20% from the 41-45 years age group, whereas the 51-55 years age group represents 22%. The minimum age was 30 years, and the maximum was 75. The mean age of the respondents who attended the acute cholecystitis was 48 years.

Conclusion: In acute cholecystitis, post-operative morbidity, mortality and hospital stay were reduced by laparoscopic cholecystectomy. Moreover pneumonia and wound infection rate were reduced by LC. Severe hemorrhage and bile leakage rates were not influenced by the technique. Cholecystectomy in acute cholecystitis should be attempted laparoscopically first.

Keywords: laparoscopic cholecystectomy, acute-cholecystitis, gall bladder, surgery

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Introduction

Acute cholecystitis is a potentially life-threatening condition, which affects >20 million Americans yearly and causes high economic burden around the world.

Gallstones is the major contributor to acute cholecystitis. [1] Laparoscopic cholecystectomy (LC) is an important approach for treating acute cholecystitis

nowadays. [2] Issued data indicated that approximately 917,000 and >50,000 LCs were annually performed to treat acute cholecystitis in the United States and England, respectively. [3-7] Although LCs have been extensively performed to manage acute cholecystitis, the optimal timing of LC for this given condition is inconclusive.

Accepting early surgery for AC and moving to technical aspects, laparoscopic should be compared to open surgery. While laparoscopic cholecystectomy (LC) has become the approach of choice for elective cholecystectomy, 48.7% of acute cholecystitis are nowadays still operated with the open technique. To our knowledge there are no meta-analysis comparing these techniques in AC. Some authors consider the presence of inflammation, edema, and necrosis as unfavorable conditions for safe dissection. As a consequence, the suspected increased rate of complications leads numerous surgeons, in the laparoscopic era to postpone cholecystectomy after resolution of acute inflammation.

Traditionally, given the higher rate of morbidity such as bile duct injury, leakage, and conversion to open surgery, the delayed LC (DLC), which is defined as at least 1 week after initial conservative treatment, is commonly adopted in treating acute cholecystitis. [8]

Gallbladder disease is among the leading causes for hospital admission for acute abdomen among adults and the most common indication for abdominal surgery in the elderly. [9,10] In situations when LC is unsafe the surgeon might have to convert to an open procedure. The risk of conversion is higher in LC for acute cholecystitis than it is in an elective procedure. [11] The risk of conversion for patients undergoing LC for acute cholecystitis has been linked to male gender, age, previous endoscopic retrograde cholangiopancreatography

(ERCP), a non-palpable gallbladder, elevated C-reactive protein (CRP) and white blood cell count (WBCC), gangrenous inflammation and the experience of the operating surgeon. [12]

The aim of the present study was to evaluate the indication of laparoscopic cholecystectomy for acute cholecystitis.

Materials and Methods

The present study was conducted in the Department of General surgery, ICARE Institute of Medical Sciences and Research & Dr. Bidhan Chandra Roy Hospital, Haldia,(W.B),and Fort U Mediemergency Hospital, Patna, Bihar, India for 1 year.

Inclusion criteria

The selection criteria were random. Cases would be selected irrespective of age, sex, duration of symptoms, an acute attack of fewer than six days.

Exclusion criteria

Patients with chronic cholelithiasis, a history of previous abdominal surgery, acute cholecystitis with generalized peritonitis, bleeding disorder were excluded from the critical study attack for more than six days.

Methodology

Total 100 acute cholecystitis patients at the hospital and routine daily worker of laparoscopic cholecystectomy in the Department of General surgery, ICARE Institute of Medical Sciences and Research & Dr. Bidhan Chandra Roy Hospital, Haldia,(W.B),and Fort U Mediemergency Hospital, Patna, Bihar, India. Out of 100 selected patients, 80 were males and 20 were females.

Data analysis: Collected data were statistically analyzed using SPSS software, MS Word and MS Excel.

Results

Table 1: Distribution of patients by age group

Age group	N	Percentage
<35 years	5	5
36-40	13	13
41-45	20	20
46-50	25	25
51-55	22	22
56-60	7	7
>60	8	8

It is clear that the maximum patients (25%) were from the 46-50 years age group and 20% from the 41-45 years age group, whereas the 51-55 years age group represents 22%. The minimum age was 30 years, and the maximum was 75. The mean age of the respondents who attended the acute cholecystitis was 48 years. (Table 1)

Table 2: Ultrasonography findings of the respondents

USG features	Frequency	Percentage
Feature of acute calculas cholecystitis	80	80
Feature of a calculas cholecystitis	3	3
Empyema	4	4
Gangrenous Gall bladder	5	5
Acute on chronic cholecystitis	8	8

Table 2 shows the frequency and percentage distribution of ultra-sonogram while abdomen feature. Our study with patients with acute cholecystitis USG findings corresponds to that about 80% of patients were suffering from acute calculus cholecystitis according to sonographic results.

Discussion

LC has become the standard procedure for managing acute calculous cholecystitis. The main concerns are with safety and feasibility as reflected in the risk of conversion to open cholecystectomy as well as the risk of postoperative complications, especially bile duct injuries.

In our study, 100 patients with acute cholecystitis were observed who went for laparoscopic cholecystectomy (within six days) to find out the safety (indication), risk, and outcomes of the procedure.

We observed the distribution of age – sex, risk factors, and outcomes to determine the

indications. The results of this study are reliable with recently published studies suggests that the laparoscopic approach is successful in most patients with acute cholecystitis. [13-16] In our study, out of 100 patients, the rate of female patients is comparatively the same as one of the series with the male-female ratio of 1:4. The mean age in our series is 48 years, which is comparable to other series is ranging from 42 years to 51.2 years. [17,18]

There is a significantly increased operative risk of both major and minor complications associated with acute cholecystitis. CBD (common bile duct injury) injury is the main risk during laparoscopic surgery for acute cases. It is mainly related to difficulty identifying anatomy and is more likely to occur in delayed surgery for acute cholecystitis. [13,15] There was 1 case CBD injury (1%) in our series in patients with acute cholecystitis, and that occurred in the group that underwent surgery after three

days and required conversion. CBD injury is one of the grave morbid conditions. [19]

The rest of the risk factors are unfulfilling as those results showed significant values. The overall outcomes in this series were observed as follows around 75% of total operated patients did not experience any complications and said they fit entirely. The other 19% who had some difficulties (Pain, RTI, Seroma, Jaundice, Cholangitis, Wound infection) also get well after follow-up visits.

Conclusion

In acute cholecystitis post-operative morbidity, mortality and hospital stay are reduced by laparoscopic cholecystectomy. Moreover pneumonia and wound infection rate are reduced by laparoscopy. A positive trend exists in operating time favoring laparoscopy, however more studies are necessary. Severe hemorrhage and bile leakage rate are not influenced by the technique. Cholecystectomy in acute cholecystitis should be attempted by laparoscopy at first. Early LC is safe and feasible in the treatment of acute calculous cholecystitis. Early identification and treatment of acute calculous cholecystitis might lower the number of patients with advanced cholecystitis and thus reduce the amount of converted patients and postoperative complications. When LC cannot be performed safely conversion should be initiated to minimize the risk of bile duct injuries.

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