ORIGINAL ARTICLE

Outcomes of Early Laparoscopic Cholecystectomy in Patients of Acute Cholecystitis

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ABSTRACT

Aim: To determine the operative outcomes of early laparoscopic cholecystectomy (LC) in patients of acute cholecystitis.

Methods: This observational study was conducted in Shalamar Hospital Lahore within a duration of nine months from November 2016 to July 2017. One hundred and eight (108) patients of acute cholecystitis having age 20-70 years were selected in this analysis. All these patients underwent early laparoscopic cholecystectomy (LC). Reactionary bleeding, conversion of OC, in-hospital mortality and hospital stay were main study endpoints.

Results: Mean age of AC patients was 55.1±12.5 years. Most of the patients 52.8% were having age more than 50 years. There were more 65.8% females and only 34.2% males. Mean operation time was 70.3±12.8 minutes. Regarding complications, conversion to OC was the commonest complication was in cadence rate of 1.8%. Reactional bleeding occurred in 1(0.9%) patients. Mean hospital stay of patients after surgery was 2.12±1.1 days. Pneumonia occurred in 2(1.8%) patients and UTI in one patient. There was no incidence of bile duct injury. There was no incidence of in-hospital death.

Conclusion: Early laparoscopic cholecystectomy is a safe and effective procedure for the management of acute cholecystitis.

Keywords: Early laparoscopic cholecystectomy, acute cholecystitis, complications

INTRODUCTION

Acute cholecystitis (AC) most commonly occurs because of obstruction of the cystic duct and is among the most common acute abdomen diseases in emergency room. About 5–25% of the adult Western population have cholecystitis due to gallstones, and many people may become symptomatic every year.[1]

Laparoscopic and open cholecystectomy are two commonly used surgical treatments of cholecystitis. Laparoscopic cholecystectomy (LC) was first performed in 1985 by Dr. Erich, has now gained a great success, and is now considered a gold standard for the treatment of cholecystectomy[2,3].

Initially laparoscopic cholecystectomy was considered a contraindication for acute cholecystitis but now due to capabilities of operating surgeons and developments in the apparatus of laparoscopic cholecystectomy, LC is now also used for the management of acute cholecystitis[4,5]. Conversion to open cholecystectomy death and reactionary bleeding have been the commonly reported complications of LC in acute cholecystitis[6,7]. Afzal et al. in 2016 reported that LC is a safe procedure for acute cholecystitis. The reported rate of conversion was 3.2%, in-hospital mortality rate was 0.32%, reactionary bleeding rate 0.96% and hospital stay 1.37±1.66 days in that stusy[8]. In another study by Ozkardes et al conversion rate to open cholecystectomy 13.3%, and bleeding rate 10%, no in-hospital mortality and hospital stay time of 5.20±1.40 days[9]. So different studies have found different outcomes of LC in acute cholecystitis patients that may be due to experience of operating surgeon or the techniques used during LC.

Laparoscopic cholecystectomy is now also used routinely in our hospital for the treatment of acute cholecystitis. The purpose of the proposed study is to determine the operative outcomes of early laparoscopic cholecystectomy in patients of acute cholecystitis. This study will help us to analyze our results of early LC in the setting of acute cholecystitis and will help us to compare our operative results with the internationally available literature.

The objective of the study was to determine the operative outcomes of early laparoscopic cholecystectomy (LC) in patients of acute cholecystitis.

METHODS

This study was conducted in Shalamar Hospital Lahore within duration of nine months from November 2016 to July 2017. One hundred and eight (108) patients of acute cholecystitis having age 20-70

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years were selected in this analysis. All these patients underwent early laparoscopic cholecystectomy (LC). Patients who underwent delayed cholecystectomy or open cholecystectomy (OC) were excluded. Informed consent was taken from every patients before LC.

Printed proforma was used to collect the necessary information regarding the patient and outcomes of the LC. Reactionary bleeding, conversion of OC, in-hospital mortality and hospital stay were main study endpoints. Any bleeding from the surgical site within 24 hours of surgery was labelled as reactionary bleeding. Any death due to operative complications during hospital stay after LC was considered as in-hospital mortality.

Date analysis will be carried out using SPSS version 19 Software. Mean and Standard deviation will be calculated for age, duration of disease, and hospital stay. Frequency and percentage will be calculated for gender, frequency of conversion to open cholecystectomy, reactional bleeding and in-hospital mortality.

RESULTS

Mean age of AC patients was 55.1±12.5 years. Most of the patients 52.8% were having age more than 50 years. There were more 65.8% females and only 34.2% males. Mean operation time was 70.3±12.8 minutes (Table 1).

Table 1: Demographic characteristics.

Variable	Value
Age	55.1±12.5
20-40 years	28 (25.9%)
40-50 years	23 (21.3%)
> 50 years	57 (52.8%)
Male Gender	37 (34.2%)
Female Gender	71 (65.8%)
Operation Time (min)	70.3±12.8

Table 2. Complication of early Lap. Cholecystectomy.

Complication	Value
Conversion to OC	2 (1.8%)
Reactional Bleeding	1 (0.9%)
In-hospital Mortality	0 (0.0%)
Hospital Stay (days)	2.12±1.1
Pneumonia	2 (1.8%)
Urinary Tract Infections	1 (0.9%)
Bile Duct Injury	0 (0.0%)

Regarding complications, conversion to OC was the commonest complication was in cadence rate of 1.8%. Reactional bleeding occurred in 1(0.9%) patients. Mean hospital stay of patients after surgery was 2.12±1.1 days. Pneumonia occurred in 2(1.8%) patients and UTI in one patient. There was no incidence of bile duct injury. There was no incidence of in-hospital death (Table 2).

DISCUSSION

Early LC is gaining access as a preferable treatment for acute cholecystitis.[10,11] Since 1980s treatment of AC has remained a controversial one regarding management. Initially it was thought that LC is a contra-indication for acute cholecystitis. Then after experience of the surgeons it was accepted that LC can be performed in patients of AC. After that it was said that early LC is not a feasible option for early management of cholecystitis. In early 20th century, surgeons started to accept that early LC can be performed safely in patients of AC. However, studies have reported some complications of early LC in patients of AC[12-14]. In this study, we evaluated the early post-operative surgical complications in patients who underwent early LC.

In our study, more than 50 patients were of age >50 years. Similar age groups were reported by Zafar et al. In our study, there were 65.8% females. There were 64.7% females in Zafar et al study[15] and Afzal et al reported 2.4:1 male to female ratio[8]. Ratan et al. reported 62% female patients in their study[16]. Mean operation time in our study was 70.3±12.8 mins. Similar operative time has been reported in literature. However, Afzal et al. found operative time of only 49.1±22.7 min in their study that is very less as compared to our study[8]. Some authors have reported shorter operative time in early LC patients in comparison with late LC patients.

In our study, conversion of OC was commonest complication that occurred in 1.8% patients. Afzal et al. reported 3.2% rate of conversion to OC. Shamim et al. found 5.06% rate of conversion to OC in early LC patients.[17]Hadi et al. reported 3.6% rate of conversion to OC in study patients[11]. No patient was converted to OC in Ratan et al study[16]. Zafar et al reported 0.1% incidence of conversion to OC[15].

In our study, reactional bleeding occurred in 0.90% patients. Other complications in our study were pneumonia found in 1.8% patients and UTI in 0.9% patients. There was no bile duct injury and In-hospital mortality in our study. Rate of reactional bleeding was 0.96% in Afzal et al study. Published rate of bile duct injury varies from 0% to 3% in different studies. Bile duct injury is the most fatal complication of LC. Most commonly it occurs due to mis-identification of bile duct as cystic duct during surgery[18]. Rate of pneumonia and UTI in our study was comparable to the previously published literature[1,19].

Mean hospital stay in our study was 2.12±1.1 days. Hospital stay was 2.5 days in Hadi et al study and

these authors concluded that hospital stay in early LC patients is significantly less in comparison to delayed LC patients.[11]Other studies have also reported similar duration of hospital stay in early LC patients as our study[20,21].

CONCLUSION

Early laparoscopic cholecystectomy is a safe and effective procedure for the management of acute cholecystitis.

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