Retrospective Assessment of Laproscopic Cholecystectomy Versus Open Cholecystectomy in Geriatric Patients with Acute Cholecystitis: A Comparative Study

Rishi Kant Aryal[1], Rakchhya Gautam[2]

ABSTRACT

Introduction: In the early days, acute cholecystitis was a contraindication of laparoscopic cholecystectomy (LC). Earlier patients with acute cholecystitis were managed conservatively and discharged for re-admission in order to get elective surgery performed for the definitive treatment. Results of various studies in the past literature show that LC is a safe and efficient treatment approach for acute cholecystitis in comparison with open cholecystectomy (OC). Hence, we planned the present study to evaluate the geriatric patients with acute cholecystitis who underwent treatment with LC and OC.

Material and Methods: The present study included assessment of 30 geriatric patients who underwent surgical procedure for the treatment of acute cholecystitis. The subjects were divided into two groups depending upon the type of treatment. One group included patients who underwent treatment with LC while the other group included patients who underwent treatment with OC. Intra-operative, postoperative and preoperative, parameters were analysed and compared. Then all the post-operative recording was done and results were analyzed by using SPSS software.

Results: Out of all patients who under wet Pc and OC, 10 and 9 were males respectively. Mean age of the patients in the LC group and OC group was 74.2 and 78.5 years respectively. While comparing the mean age, body weight and history of previous surgery in between the patients of the two study groups non-significant results were obtained. None of the patients of the LC group had myocardial infarction while two patients in the OC group suffered myocardial infarction. Among LC and OC group, wound infection occurred in 1 and 2 patients respectively. Significant results were obtained while comparing the complications in between the study groups.

Conclusion: For treating geriatric patients with acute cholecystitis, LC is a safer procedure.

Keywords: Cholecystectomy, Cholecystitis, Laproscopic

INTRODUCTION

One of the gold standard procedures for the treatment of symptomatic gallstones is elective laparoscopic cholecystectomy. However, in the previous days, acute cholecystitis was a contraindication for laparoscopic cholecystectomy (LC), and the patients having acute cholecystitis were use to be managed conservatively and discharged for re-admission in order to perform elective surgery for the definitive treatment.[1,2] Surgeons started to attempt early laparoscopic cholecystectomy for acute cholecystitis with the increased experience in laparoscopy, However, early laparoscopic cholecystectomy is still performed only by few surgeons.[3,4]

Results of various studies in the past literature shows that LC is a safe and efficient treatment approach for acute cholecystitis in comparison with open cholecystectomy (OC). In elderly patients the role of LC in acute cholecystitis, present with co-morbidity, has yet to be defined. Advanced age with concomitant medical conditions may be associated with increased postoperative complications and more frequent conversion to OC.[5-7] Hence; we planned the present study to evaluate the geriatric patients with acute cholecystitis who underwent for the treatment with LC and OC.

MATERIAL AND METHODS

The present study was conducted in the department of general surgery of the medical institution and included assessment of 30 geriatric patients who underwent surgical procedure for the treatment of acute cholecystitis from 2012 to 2015. All the patients in the proposed study were divided into two groups which was depend upon the type of the treatment. One group included patients who underwent treatment with LC while the other group included patients who underwent treatment with OC. Intra-operative, postoperative and preoperative, parameters were analysed and then compared. Admission of all the patients was done in an emergency who were having the clinical picture of acute cholecystitis, including right upper quadrant abdominal pain and tenderness. Ultrasound study was used for confirming the diagnosis of acute cholecystitis with evidence of a thickened gallbladder wall and pericholecystic fluid. Patients diagnosed with acute cholangitis and those undergoing for elective cholecystectomy with a pathological diagnosis of acute cholecystitis were excludedin this study. All the patients who were treated with early cholecystectomy and intravenous antibiotics and at the time of admission to hospital, once the diagnosis was made, were selected for the study. Standard four-port technique was used for performing LC. Recording of all the post-operative records was done.

STATISTICAL ANALYSIS

All the results were analyzed by SPSS software. Chi-square test and student t test were used for the assessment of level of significance. P-value of less than 0.05 was taken as significant value.

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RESULTS

Table 1 and Figure 1 show the demographic details of the patients. Out of all patients who under wet Pc and OC, 10 and 9 were males respectively. Mean age of the patients in the LC group and OC group was 74.2 and 78.5 years respectively. Mean weight of the patients in the LC and OC group were 58.1 and 56.1 kg respectively. While comparing the mean age non-significant results were obtained, the body weight and history of previous surgery in between the patients of the two study groups. Table 2 and Figure 2 show the complications of surgery in the patients of the two study group. In the patients of the LC group, chest infection occurred in 1 patient while it occurred 3 patients of the OC group. None of the patients of the LC group had myocardial infarction while two patients in the OC group suffered myocardial infarction. Among LC and OC group, wound infection occurred in 1 and 2 patients respectively. Significant results were obtained while comparing the complications in between the study groups.

Parameter	LC	OC	p-value
Male	10	9	0.25
Female	5	6	0.14
Mean age (years)	74.2	78.5	0.52
Mean weight (Kg)	58.1	56.1	0.87
Previous surgery	2	5	0.37

Table-1: Demographic details of the patients

Parameter	LC group	OC group	p-value
Chest infections	1	3	4
Myocardial infarction	0	2	2
Wound infections	1	3	4
Leakage of cystic lump	1	2	3
Total	3	10	0.02*
*: Significant			

Table-2: Complications of surgery in the patients of the two study group

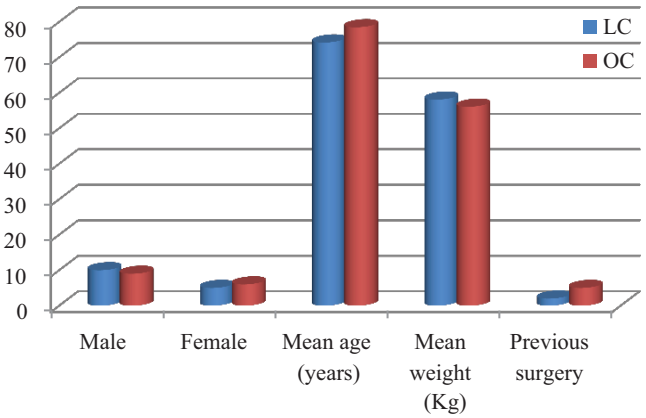

Figure-1: Demographic details of the patients

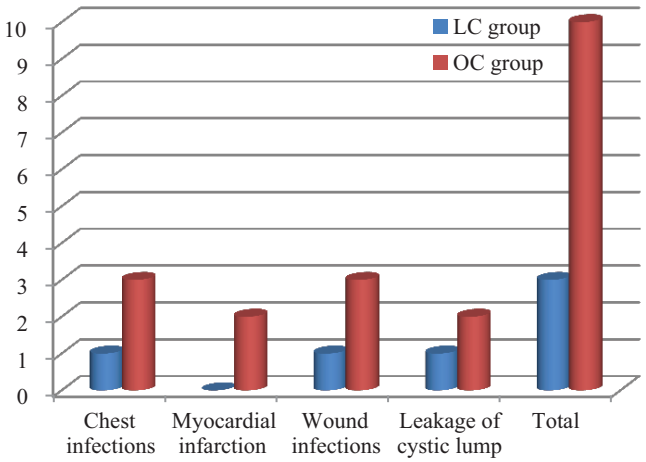

Figure-2: Complications of surgery in the patients of the two study group

DISCUSSION

From the past few decades, there has been a steady rise in the life expectancy of individuals. Factors contributing to these demographic changes include advances in acute medical care, improvements in primary prevention, and progress in pharmaceutical and biomedical technology.[8,9] Persons older than 65 years of age denoted by the term 'elderly' in the medical literature. With an increasing life expectancy of more than 65 years, it has become harder to define the real 'old' and therefore 'high-risk' group of patients from the modern medicine point of view.[10] Hence, we planned the present study to evaluate the geriatric patients with acute cholecystitis who underwent treatment with LC and OC.

In the proposed study, we observed that patients treated with LC had significantly lesser complications in comparison with patients who were treated with OC (Table-2, Figure-2). Gutt et al conducted a randomized trial to compare early versus delayed cholecystectomy. The ACDC ("Acute Cholecystitis-early laparoscopic surgery versus antibiotic therapy and Delayed elective Cholecystectomy") this study was a randomized, prospective, parallel group trial, open-label trial. Patients were randomly assigned to get initial antibiotic treatment or immediate surgery within 24 hours of hospital admission (group ILC) followed by delayed LC at days 7 to 45 (group DLC). The rate of morbidity was significantly lower in group ILC having 304 patients than in group DLC having 314 patients and had a percentage of 11.8 versus 34.4. Conversion rate to open surgery and mortality did not differ significantly between the groups. In this large, randomized trial, LC within 24 hours of hospital admission was shown to be higher to the conservative approach concerning cost and morbidity and[11] Minutolo et al compared outcomes and total hospital costs between early and delayed LC for acute cholecystitis. An retrospective analysis of patients with acute cholecystitis that underwent a LC was performed and patients were divided into 2 groups on the basis of the treatment given and statistical analysis was performed on that basis. The study included 91 patients in which 52 were female and 39 were male, with a mean age of 55. An early surgery was performed in 32 cases and delayed surgery was performed in 59 cases. The two groups were comparable for demographics data and severity of disease on admission. The overall complications rate was comparable. Length of postoperative stay was similar, but total hospital stay was significantly 4 days shorter in the early group. The mean of the total cost was a bit higher for the delayed group, with a significant difference of 1870 Euro. Early LC has an outcome which was comparable to the delayed procedure, with a shorter total hospital stay and lower total costs, and it should be considered as the preferred approach in treatment of

acute cholecystitis.[12]

Chang et al assessed the advantages, disadvantages and clinical outcomes, of early versus delayed LC for acute cholecystitis. Records of all patients was admitted for acute cholecystitis in whom LC were reviewed.[2] A total of 89 patients were recruited for the study. Of these, 56 patients received early LC (ELC), and 33 patients received delayed LC (DLC) following conservative therapy. The conversion rate to open cholecystectomy was not significantly different, and there were no biliary tract injury or any other major complications in either of the group. Both early and delayed LC appears to be effective and safe in the treatment of acute cholecystitis. Early LC may be more technically demanding, may be associated with a higher rate of wound infections, time-consuming and however, it also tends to shorten the total length of hospital stay and reduce the risk of repeat cholecystitis. We recommend early LC for acute cholecystitis comparison with delayed LC.[13] Gurusamy et al compared the early LC which was having less than seven days of onset of symptoms versus delayed LC which is having more than six weeks after index admission with regards to benefits and harms. They included five trials with 451 randomised patients: 223 to the early group and 228 to the delayed group. Surgery was performed on 222 patients in the early group and on 216 patients in the delayed group. There was no mortality in any of the trials in all these trials four of the five trials were of high methodological quality.

There was no statistically significant difference between the two groups for any of the outcomes including conversion to open cholecystectomy and bile duct injury and in last they concluded that LC during acute cholecystitis seems safe and shortens the total hospital stay.[14-18]

CONCLUSION

From the above results, the authors conclude that for treating geriatric patients with acute cholecystitis, LC is a safer procedure. However, future studies with larger study group are recommended.

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