

A Comparative Analysis Of Interval Cholecystectomy And Early Cholecystectomy Among Patients Of Acute Cholecystitis At A Tertiary Care Centre

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DOI: 10.47750/pnr.2022.13.S05.72

Abstract

Background: Comparative evaluation of the efficacy of Interval Cholecystectomy and Early Cholecystectomy Among Patients of Acute Cholecystitis.

Materials & methods: A total of 100 patients with presence of acute cholecystitis were analysed. All the patients were broadly and randomly divided into two study groups as follows: Group A: 50 patients who were schedule to undergo interval cholecystectomy, and Group B: 50 patients who were schedule to undergo early cholecystectomy. Complete history of all the patients was obtained. All patients were subjected to detailed history including, chief complaints, history of present and past illness, personal history, family history, treatment and drug history. All the operative procedures were carried out under the hands of skilled and experienced surgeons. Follow-up was done and complications (if any) were recorded separately. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software.

Results: Occurrence of postoperative wound infection and biliary leaks was higher among the patients of group B in comparison to patients of group A. Mean hospital stay among the patients of group A and group B was 5.6 days and 9.1 days respectively. While comparing statistically, significant results were obtained.

Conclusion: Interval Cholecystectomy shows better results in comparison to Early Cholecystectomy among patients of Acute Cholecystitis in terms of occurrence of postoperative complications and shorter duration of hospital stay.

Key words: Interval Cholecystectomy, Early Cholecystectomy, Acute Cholecystitis

INTRODUCTION

Acute cholecystitis refers to inflammation of the gallbladder. The pathophysiologic mechanism of acute cholecystitis is blockage of the cystic duct. The etiology of acute cholecystitis is, by definition, cystic duct blockage, which causes inflammation. Normally, bile is made in the liver and travels down the bile duct, and is stored in the gallbladder. Cholecystitis is a condition best treated with surgery; however, it can be treated conservatively if necessary. Diagnosis of acute cholecystitis is made on the basis of clinical features and is supported by results of ultrasound scanning.^{1,2}

The timing of surgery for the 80% of patients without evidence of gangrene or perforation is under debate. Open cholecystectomy traditionally has been performed 6-12 weeks after the acute episode to allow the inflammatory process to resolve before the procedure (interval surgery). Patients with acute cholecystitis who undergo early laparoscopic cholecystectomy (before symptoms have lasted 72-96 hours) have lower complication rates and lower conversion rates than open cholecystectomy and shorter hospital stays than those undergoing interval surgery.^{3,4} Early surgery for acute cholecystitis also has a lower conversion rate than delayed surgery (which is performed during the index admission after conservative management and after symptoms have lasted 3-5 days). Early surgery also avoids complications when conservative treatment fails.^{5,6} Hence; the present study was undertaken for comparatively evaluating the efficacy of Interval Cholecystectomy and Early Cholecystectomy Among Patients of Acute Cholecystitis.

MATERIALS & METHODS

The present study was undertaken for comparatively evaluating the efficacy of Interval Cholecystectomy and Early Cholecystectomy Among Patients of Acute Cholecystitis. A total of 100 patients with presence of acute cholecystitis were analysed. All the patients were broadly and randomly divided into two study groups as follows:

Group A: 50 patients who were schedule to undergo interval cholecystectomy, and

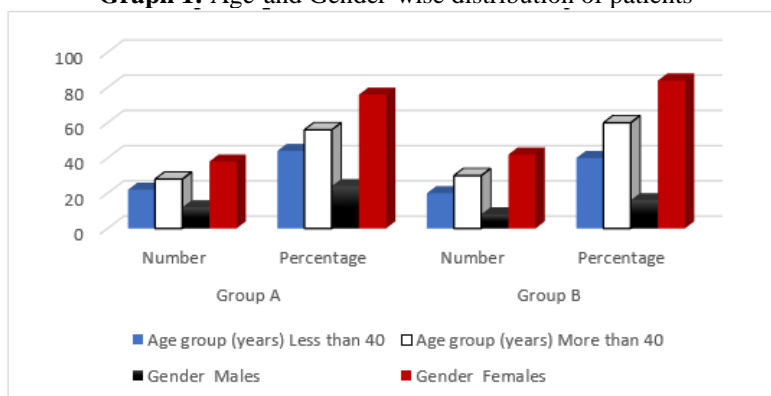
Group B: 50 patients who were schedule to undergo early cholecystectomy

Complete history of all the patients was obtained. All patients were subjected to detailed history including, chief complaints, history of present and past illness, personal history, family history, treatment and drug history. Then detailed physical examination like general survey, abdominal examination, other systemic examinations were carried out. All the operative procedures were carried out under the hands of skilled and experienced surgeons. Follow-up was done and complications (if any) were recorded separately. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software.

RESULTS

Majority proportion of patients of both the group A and group B were females. Mean age of the patients of group A and Group B was 51.3 years and 52.9 years respectively. In 4 percent of the patients of group A and 8 percent of the patients of group B, Laparoscopic cholecystectomy was converted into open cholecystectomy. Occurrence of postoperative wound infection and biliary leaks was higher among the patients of group B in comparison to patients of group A. Mean hospital stay among the patients of group A and group B was 5.6 days and 9.1 days respectively. While comparing statistically, significant results were obtained.

Graph 1: Age- and Gender-wise distribution of patients



Graph 2: Type of surgical procedure

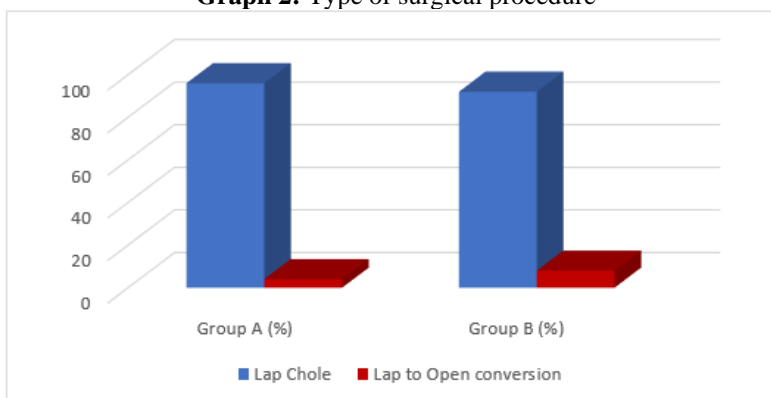


Table 1: Complications

Complications	Group A		Group B	
	Number	Percentage	Number	Percentage
Wound infection	1	2	4	8
Biliary leaks	3	6	5	10
Stricture	0	0	1	2

Table 2: Hospital stay (days)

Hospital-stay	Group A	Group B
Mean	5.6	9.1
SD	2.7	4.3
Range	18	22
p- value	0.000 (Significant)	

DISCUSSION

Gallstone-associated cystic duct obstruction is responsible for 90% to 95% of the cases of acute cholecystitis. Approximately 5% to 10% of patients with acute cholecystitis have acalculous cholecystitis, defined as acute inflammation of the gallbladder without gallstones, typically in the setting of severe critical illness. The typical presentation of acute cholecystitis consists of acute right upper quadrant pain, fever, and nausea that may be associated with eating and physical examination findings of right upper quadrant tenderness.^{7,8} With the increased experience in laparoscopy, surgeons started to attempt early laparoscopic cholecystectomy for acute cholecystitis. However, early laparoscopic cholecystectomy is still performed by only a minority of surgeons. Furthermore, the exact timing, potential benefits, and cost-effectiveness of laparoscopic cholecystectomy in the treatment of acutely inflamed gallbladder have not been clearly established and continue to be controversial.^{8,9} Hence; the present study was undertaken for comparatively evaluating the efficacy of Interval Cholecystectomy and Early Cholecystectomy Among Patients of Acute Cholecystitis.

In the present study, mean age of the patients of group A and Group B was 51.3 years and 52.9 years respectively. In 4 percent of the patients of group A and 8 percent of the patients of group B, Laparoscopic cholecystectomy was converted into open cholecystectomy. Occurrence of postoperative wound infection and biliary leaks was higher among the patients of group B in comparison to patients of group A. Our results were in concordance with the results obtained by previous authors who also reported similar findings. In a previous study conducted by Singh et al, authors evaluated 60 patients and divided into two groups of 30 each to compare the results of early surgery with the delayed surgery. They observed that early cholecystectomy was found to be more economical with less total hospital stay and less total cost of the therapy than interval cholecystectomy in acute cholecystitis.¹⁰ In another similar study conducted by Ozkardeş AB et al, authors compared the clinical outcome and cost of early versus delayed laparoscopic cholecystectomy for acute cholecystitis. Despite intraoperative and postoperative complications being associated more with early laparoscopic cholecystectomy compared with delayed intervention, early laparoscopic cholecystectomy should be preferred for treatment of acute cholecystitis because of its advantages of shorter hospital stay and lower cost.¹¹

In the present study, mean hospital stay among the patients of group A and group B was 5.6 days and 9.1 days respectively. While comparing statistically, significant results were obtained. In patients with acute cholecystitis, all would therefore theoretically be expected to suffer local and systemic inflammation within 72 h of the onset of symptoms, but local and systemic changes may be, after this time, unpredictable for each patient. It can be supposed therefore that performing cholecystectomy during the initial phase of the disease may prevent the complications related to the on-going cholecystitis at the time of surgery, especially for those evolving into a severe form for which post-operative complications are increased (Kumar V et al, Borzellino G et al).¹²⁻¹⁴ In a similar study conducted by Kumar P et al, authors assessed 100 patients; Interval Cholecystectomy group and Early Cholecystectomy group. They concluded that early surgery is found to be more economical than delayed surgery in acute cholecystitis if the diagnosis could be confirmed in proper time.¹⁵ Hegazy Tarek O et al, in another study, compared between patients with uncomplicated ACC treated with early LC (within 72 h) versus interval LC (after 6 weeks of conservative treatment) regarding primary and secondary outcomes. A total of 100 patients with uncomplicated ACC are divided randomly into two groups, group A, early LC, and group B, interval LC. From this study, we conclude that there is no significant difference between both groups regarding primary and secondary outcomes. Early LC is feasible and safe, and interval LC is not associated with a lower conversion rate. In group A, there is a significantly high rate of infection, with longer hospital stay in diabetics, and in group B as well, the bile leak and rate of conversion are high, with longer hospital stay in diabetics.¹⁶

CONCLUSION

From the above results, the authors conclude that Interval Cholecystectomy shows better results in comparison to Early Cholecystectomy among patients of Acute Cholecystitis in terms of occurrence of postoperative complications and shorter duration of hospital stay.

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