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Outcome of Early Cholecystectomy in Mild Biliary Pancreatitis

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Abstract

Introduction: Acute biliary pancreatitis (ABP) caused by gallstones and biliary sludge[1] is the most important cause of Acute Pancreatitis (AP).

Aim: Effect of early cholecystectomy in mild acute biliary pancreatitis.

Methods: This was a hospital based observational study, by convenience sampling recruited 60 patients of mild acute biliary pancreatitis eligible as per inclusion criteria within study duration of one year reported at Department of Surgery, Sardar Patel Medical College, PBM Hospital, Bikaner.

Results: mean age was 44.76±9.88 yr (range 30-70), 60% were female, 51.67% had pain & nausea as chief complaint, 71.66% patients had Cholelithiasis on MRCP. 6.68% had 3 CT severity score preoperatively whereas 1.66% had 3 CT severity score postoperatively. 56.67% cases had surgery after 72-96 hr. Success rate of early cholecystectomy was 98.33%. 56.67% cases had surgery after 72-96 hr mean 101.6± 14.89 hr. Only one case had recurrence on 3 months follow up.

Conclusion: Early Cholecystectomy for patients with acute mild gallstone pancreatitis was found to be a safe procedure when performed during the index admission.

Keywords: Early Cholecystectomy; Biliary pancreatitis.

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Introduction

Acute biliary pancreatitis (ABP) caused by gallstones and biliary sludge[1] is the most important cause of Acute Pancreatitis (AP), accounting for up to 75% of cases.[2] Although most cases of ABP are mild and Self-limiting, a small group (20%) of patients may develop severe pancreatitis, which is associated with high morbidity and mortality.[3] Commonly, after resolution of the initial attack of APB, patients may experience a recurrent attack (40% to 60%) within 2 weeks or other gallstone-related complications such as biliary colics, acute cholecystitis, acute cholangitis or common bile duct (CBD) obstruction.

Acute pancreatitis is a common disease in the emergency room with an annual incidence ranging from 4.9 to 35 per 100,000 population.[4] According to the Atlanta classification, 80% of patients with pancreatitis have mild acute pancreatitis.[5] Acute biliary pancreatitis is one of the most common types of acute pancreatitis, accounting for up to 40 to 70% of cases.[6-7,1]

Currently, laparoscopic cholecystectomy is the preferred method for treating acute gallstone pancreatitis and reducing its recurrence.[8] For

patients with acute severe pancreatitis, since there is a higher risk of complications with early surgical intervention, surgery is often performed after the inflammation has subsided.[9] For patients with Mild acute biliary pancreatitis (MABP), current international guidelines support the use of "early" laparoscopic cholecystectomy.

However, there is a lack of consensus regarding the definition of "early" in each guide. Diversification of early definitions may lead to bias in conclusions. The International Association of Pancreatology recommends cholecystectomy during the same admission.[10] While the American Gastroenterological Association suggests that LC should be performed within the period of hospital admission and not beyond 2 to 4 weeks after discharge.[11] In addition, some guidelines fail to advice on the timing of cholecystectomy for acute biliary pancreatitis.[5] The timing of surgery is focused on the safety and effectiveness of surgery.

It is generally believed that acute mild biliary pancreatitis should be treated with conservative symptomatic support treatment for 2 to 4 weeks or even longer before undergoing a cholecystectomy. Delaying surgery provides time for a detailed examination, finding the cause, avoiding unnecessary biliary exploration, avoiding early surgery that might aggravate the pancreatitis, and is conducive to recovery from acute pancreatitis.

Patients with mild acute biliary Pancreatitis, who incidentally form the major group (80%) in ABP do not have any associated organ dysfunction and thus are candidates who should be offered early laparoscopic cholecystectomy (ELC) during the first admission itself. This is all the more important to prevent a recurrent attack of acute pancreatitis, seen in as many as 30–50% of these patients during the waiting period for ILC and also to reduce the number of defaulters.[17-21.]

Aim

Effect of early cholecystectomy in mild acute biliary pancreatitis.

Methods

A hospital based observational study conducted on 60 patients with mild acute biliary pancreatitis recruited through convenient sampling within study duration and eligible as per inclusion criteria reported to Department of Surgery, S.P. Medical College, PBM Hospital, Bikaner. After obtaining permission from institution research board the present study was conducted data was collected from under study population through a pretested and semi-structured schedule.

Results

In our study, mean age of 44.76±9.88 yr. Maximum 52.59% had pain & nausea as chief complaint whereas Pain, Nausea & bilious Vomiting presented in 48.33% patients. Maximum 46.67% cases had complaints from 4–5 days whereas minimum 20% had from 6-7 days, with mean duration of 4.15± 1.47. Preoperative mean serum amylase was 938.53 ± 352.51 whereas 75.9 ± 15.00 after 72 hrs of Surgery. out of 60 cases only one had recurrence on 3months follow up. success rate of early cholecystectomy was 98.33%.

Table 1:

Age (years)	Frequency	Percent
30 – 40	26	43.33
41 – 50	19	31.67
51 – 60	10	16.67
>60	5	8.33
Sex Profile		
Male	24	40.00
Female	36	60.00
Residents		
Rural	33	55.00
Urban	27	45.00

Table 2:

Chief Complaints	Frequency	Percent
Pain & Nausea	31	51.67
Pain, Nausea & bilious Vomiting	29	48.33
Total	60	100.00
Duration (days)	Frequency	Percent
2 – 3	20	33.33
4 – 5	28	46.67
6-7	12	20.00

Preoperative mean serum Lipase was 798.61± 295.39 whereas 70.03 ± 14.22 after 72 hrs of Surgery. In our study maximum 71.66% patients had Cholelithiasis on MRCP followed by GB sludge and cholelithiasis in 16.67% and minimum 11.67% had GB sludge on MRCP.

Table 3:

Serum Amylase	938.53	352.51	75.9	15.00
Serum lipase	798.61	295.39	70.03	14.22
MRCP findings	**Frequency**		**Percent**	
GB sludge	7		11.67	
Cholelithiasis	43		71.66	
GB sludge and cholelithiasis	10		16.67	

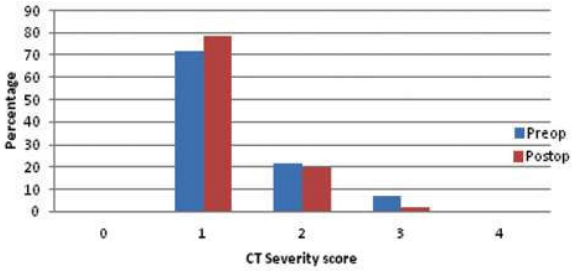


Fig. 1: Distribution of subjects according to their CT Severity score.

Table 4: Distribution of subjects according to Timing of Surgery after admission.

Timing of Surgery (hrs)	Frequency	Percent
Within 72	6	10.00
72 - 96	34	56.67
96 - 120	20	33.33
Post op stay (days)	Frequency	Percent
5 to 7	30	50.00
8 to 10	24	40.00
>10	6	10.00

Discussion

A hospital based observational study conducted on 60 patients with mild acute biliary pancreatitis recruited through convenient sampling within study duration and eligible as per inclusion criteria reported to Department of Surgery, S.P. Medical College, PBM Hospital, Bikaner.

In our study, maximum 43.33% patients were in 30-40 yr age group mean age of 44.76±9.88 yr (30-70yrs). In our study, maximum 60% were female whereas 40% were male and maximum 55% were rural whereas rest 45% was urban. We are at tertiary care and referral center the main inflow is from rural areas that's why rural patients are higher in our study. In our study, 51.67% had pain & nausea as chief complaint whereas Pain, Nausea & bilious Vomiting presented in 48.33% patients, with mean duration of 4.15± 1.47 days. The empirical features of acute pancreatitis were observed in our study also. Aboulian, Armen et al. (2010)[8] observed a median duration of symptoms of 2 days upon presentation.

Preoperative mean serum amylase was 938.53 ± 352.51 and mean serum Lipase 798.61± 295.39 whereas 75.9 ± 15.00 and 70.03 ± 14.22 after 72 hrs of Surgery, respectively. The serum markers are raised preoperatively and were seems to decreased after 72 hrs of surgery as a sign of recovery.

In our study, maximum 71.66% cases had 1 CT severity score whereas Minimum 6.68% had 3 CT severity score preoperatively while 78.33% cases had 1 CT severity score postoperatively whereas 1.66% had 3 CT severity score postoperatively. The improvement in ct severity score was statistically insignificant.

In our study, maximum 56.67% cases had surgery after 72-96 hr of admission whereas minimum 10% had within 72 hr of admission, with mean of 101.6± 14.89 hr. Maximum 50.00% cases had post operative stay of 5-7 days whereas minimum 10% had stay of >10days, with mean of 7.71 ± 1.74 days. Shir LiJee et al. (2018)51 found the hospital length of stay was 8 days. Also lower stay was observed by Aboulian, Armen et al. (2010)[8], found that out of 25 patients the hospital length of stay was shorter for the early cholecystectomy that is mean: 3.5 days. Also higher stay was seen by Orhan Alimoglu et al. (2003)[43] found that the mean hospital stays were 15.29 days (range 4–48 days). Also some studies conducted by Yang DJ et al. (2018)[53], Hamad Hadi Al-Qahtaniet al. (2014)[46] and Lyu YX et al (2018)[52] found that the length of hospital stay was shorter with Early cholecystectomy.

In our study, maximum 66.67% had no difficulty during surgery. 26.66% presented with adhesion whereas 6.67% had bleeding during surgery. David Wda Costa et al. (2015)[48] reported out of 266 cases, only one case had bleeding.

In our study, in lap operated patients 4 had pain abdomen and one developed diarrhea whereas in open surgery cases 6 had pain abdomen, 2 had diarrhea, 3 suture line abscess. Similarly Shir LiJee et al. (2018)[51] found that A total of 72 patients were 7.78%peri-operative complications. Also Yang DJ et al. (2018)[53] found that out of 2291 patients, rate of complications for Early Cholecystectomy was 6.8%. MarianneJohnstone et al. (2014)[47] found that of 523 patients with gallstone pancreatitis7% of patients had a complication related to cholecystectomy. Also Leonardo José Randial Pérez (2014)[14] Ten of 207 (4.83%) in the early cholecystectomy group showed some type of complication.

Other various studies conducted by Rozh Noel et al (2018)[54], Lyu YX et al (2018)[52], Shir LiJee et al. (2018)[51], van Baal, Mark C. Et al (2012)[15] found no significant differences in the rate of postoperative complications.

In our study, out of 60 cases only one had recurrence on 3 months follow up. The recurrence case was readmitted thus success rate of early cholecystectomy was 98.33%. Similarly van Baal, Mark C. Et al (2012)[15] found that Cholecystectomy was performed during index admission in 483 patients (48%) without any reported readmissions. Also Yang DJ et al. (2018)[53] reported rate of readmission was lower for Early cholecystectomy.

Conclusion

Early Cholecystectomy for patients with acute mild gallstone pancreatitis was found to be a safe procedure when performed during the index admission. It showed significant reduction in the length of hospital stay as well as in the recurrent bilio-pancreatic gallstone related events.

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