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Research Article

**EVALUATION OF EARLY AND DELAYED LAPAROSCOPIC  
CHOLECYSTECTOMY FOR ACUTE CHOLECYSTITIS**

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**Article Received:** November 2019    **Accepted:** December 2019    **Published:** January 2020**Abstract:**

**Introduction:** In all the hepatopancreatobiliary emergencies, Acute cholecystitis is the significant one. To check the efficacy and feasibility of laparoscopic cholecystectomy in the acute cholecystitis, different studies related to this are performed with much experience in the subject of laparoscopic cholecystectomy.

**Methodology:** the number of people selected in this experiment is 50 and they have acute cholecystitis. They are further divided into the sub groups. 1<sup>st</sup> group is early group and 2<sup>nd</sup> group is delayed group.

**Findings:** in the 1<sup>st</sup> group, the average period is  $43 \pm 6$  mins and in the 2<sup>nd</sup> group, the average period is  $40 \pm 6$  mins. In 1<sup>st</sup> group, perforation of gallbladder in 4 selected people was described. In 2<sup>nd</sup> group, this is in just 2 patients. In 1<sup>st</sup> group, spillage of gall stone in 3 selected people was described. In 2<sup>nd</sup> group, this is in just 2 patients. The VAS score obtained in the 1<sup>st</sup> group is  $4.0 \pm 0.41$  at average 6<sup>th</sup> hour of duration while the score in 2<sup>nd</sup> group is  $4 \pm 0.68$ . The VAS score obtained in the 1<sup>st</sup> group is  $3.5 \pm 0.61$  at average 12<sup>th</sup> hour of duration while the score in 2<sup>nd</sup> group is  $3.4 \pm 0.58$ . Average period related to the stay of postoperative is  $2.3 \pm 0.60$  days in the patients of 1<sup>st</sup> group while stay for 2<sup>nd</sup> group is  $2.18 \pm 0.67$  days.

**Conclusions:** it can be concluded that while setting the acute cholecystitis, the safe and efficient way is initial level of laparoscopic cholecystectomy in addition with short stay at hospital.

**Keywords:** Early surgery, Acute cholecystitis, Early surgery, Delayed surgery, Clinical outcomes, Complications

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## INTRODUCTION:

In all the hepatopancreatobiliary emergencies, Acute cholecystitis is the significant one. It needs good services for treatment. The best treatment is required after the identification of the disease of acute cholecystitis. Different steps can be taken for the treatment at the initial level and different medicines are used such as Intravenous fluids, proper analgesia and antibiotics but the best remedy is the use of cholecystectomy. Nonetheless, from so many years, the major concern is the duration of cholecystectomy. Two schools are there of thought, 1<sup>st</sup> school for the suggestion of cholecystectomy in the admission index and 2<sup>nd</sup> school for supporting the thought of managing the disease at initial stage any other admission of cholecystectomy.

It is stated that the inflammation which is acute and in the form of the triangle of Calot's is related with the injury of bile duct and open procedure conversion 1, 2. The relationship of higher rate of morbidity and urgent procedures is also the major concern 5, 6. The risk of incrementing the gall stone gradually is increased if someone delayed their surgery 7, 8. The stay at hospital will be less when the surgery will be in the context of admission index. The advantages of the procedures of laparoscopic is very much. Having the good experience regarding cholecystectomy of laparoscopic, the feasibility and efficiency of this method can be checked in the acute cholecystitis.

## METHODOLOGY:

The purpose of the study is to compare the methods of the cholecystectomy named as early method and delayed. This is conducted at Jannah Hospital, Mayo Hospital Lahore. This is a general study performed from January 2017 to December 2018.

The number of selected patients who has cholecystitis included in the experiment is 50. All the patients of Jannah Hospital, Mayo Hospital Lahore are suffering from acute stage of cholecystitis. The form for taking permission is filled from them. The excluded people are suffering from ASA IV, jaundice and empyema gallbladder. The selected 50 people who are volunteer are then randomly sub divided into two sets. 1<sup>st</sup> group is early and the 2<sup>nd</sup> one is delayed.

The method of laparoscopic for cholecystectomy is done in the 72 hours after the admission in the 1<sup>st</sup> group. The patients from the 2<sup>nd</sup> group is firstly treated conservatively and sent to their homes back after some improvement in their situation. The 1<sup>st</sup> method laparoscopic is again performed after six weeks of admission.

The points considered for comparing the two methods include total period required for surgery, complications which are intraoperative, need for advancing the methods, assessment of the pain of postoperative, total stay period at hospital ward, the stay at hospital after operation, complication after operation.

## Factual Analysis:

The software used for the compilation of data is MS Excel version 2007. The software used for the purposes of statics calculations is SPSS 20. Test of unpaired t, test of fisher and test of Chi square is used to compare statistically. For the acceptance of statistics, the value of p should be <0.05.

## Findings:

In the 1<sup>st</sup> group, the average period is  $43 \pm 6$  mins and in the 2<sup>nd</sup> group, the average period is  $40 \pm 6$  mins. With the help of the test of unpaired t the value of p calculated as 0.8 which is not so high statistically. There are total 25 patients in the 1<sup>st</sup> group, 16 of them are women and the total patients in the 2<sup>nd</sup> group are also 25 but the number of women from them is 19.

The number of male patients in the group called as early is 9 and in delayed group, males are just 6 in number. After the application of test of Chi square the value of p is 0.86 which also not much considerable. Average period related to the stay of postoperative is  $2.3 \pm 0.60$  days in the patients of 1<sup>st</sup> group while stay for 2<sup>nd</sup> group is  $2.18 \pm 0.67$  days.

The period required for surgery in the patients of early is longer and this period is shorter for the members of the other group. The value of p is 00.06 from the test of unpaired t which is not a considerable value.

Table 1: operating time of each group

Operating time	Delayed group		Value of P
	Early group		
	$43 \pm 5.89$	$40 \pm 5.65$	0.06

In 1<sup>st</sup> group, perforation of gallbladder in 4 selected people was described. In 2<sup>nd</sup> group, this is in just 2 patients. In 1<sup>st</sup> group, spillage of gall stone in 3

selected people was described. In 2<sup>nd</sup> group, this is in just 2 patients. But the injuries of vessel and bile duct is not present in the people of both groups.

Table 2: complications of Intra operative of each group

Intraoperative problems	patients of early group	patients of delayed group
	N	N
Injury of vessel	0	0
Injury of Bile duct	0	0
GB perforation	4	2
spillage of Gall stone	3	2
Any injury	0	0

The VAS score obtained in the 1<sup>st</sup> group is  $4.0 \pm 0.41$  at average 6<sup>th</sup> hour of duration while the score in 2<sup>nd</sup> group is  $4 \pm 0.68$ . The VAS score obtained in the 1<sup>st</sup> group is  $3.5 \pm 0.61$  at average 12<sup>th</sup> hour of duration while the score in 2<sup>nd</sup> group is  $3.4 \pm 0.58$ . the value of p is 0.03 after the use of test of unpaired test t.

The level of pain is high in the patients of the 1<sup>st</sup> group at 6<sup>th</sup> hour as compared to the other group but at the

time of 12<sup>th</sup> hour there is not a significant difference is observed in the context of statistics in the patients of both the groups.

Average time related to the stay of patients after operation is  $2.3 \pm 0.60$  days in the patients of early group while stay for delayed group is  $2.18 \pm 0.67$  days. Therefore, the stay after the operation will be for many days for the patients of early group rather than the delayed group patients.

Table 3: duration of each group for postoperative stay

Postoperative stay	Early group	Delayed groupP
	$2.34 \pm 0.60$	$2.15 \pm 0.67$ 0.34

By using the test named as unpaired t, it is obvious that there is a great difference in the above-mentioned groups as the value of p is 0.34.

The days to stay at hospital for the patients of group early is  $4.34 \pm 0.560$  while these days for the patients of the delayed group is  $7.27 \pm 0.657$ . The value of p obtained after performing the test of unpaired t is less than 0.0001 which is noticeable. So, the days to stay at

hospital for the patients of 1<sup>st</sup> group is less than 2<sup>nd</sup> group.

The requirement of enlargement of port of epigastric is observed just in six patients of 1<sup>st</sup> group and this requirement is only in two patients in delayed class. The value of p obtained after performing the test of fisher is 0.25 which is not noticeable

Table 4: Modification in operative method of each group.

Modification in operative method	Early group	Delayed group	P value
<b>Additional port</b>	0	0	-
<b>Enlargement of port of epigastric</b>	6	2	0.25
<b>procedure of Conversion and open</b>	0	0	-

The infection of wound observed in just three patients of 1<sup>st</sup> group and in single person of 2<sup>nd</sup> group. Seroma of wound is just single patients o each group. The dehiscence and hematoma of wound is not detected in any patient. Leak of bile, problems after operation and

abscess of intra-abdominal is also not present in any person from both groups. The value of p obtained after performing the test of fisher is 0.567 which is not noticeable

Table 5: Postoperative problem of each group

Post-operative problems	Early group	Delayed group
<b>infection of Wound</b>	3	1
<b>dehiscence of Wound</b>	0	0
<b>hematoma of Wound</b>	0	0
<b>seroma of Wound</b>	1	1
<b>abscess of Intra-abdominal</b>	0	0
<b>Bile leak</b>	0	0
<b>Other problem</b>	0	0

### DISCUSSION:

In this investigation we have assessed early and postponed laparoscopic cholecystectomy in intense cholecystitis and contrasted it and the past examinations done.

Minutolo et al in their examination detailed transformation rate in early gathering to be 34.3% and in their deferred gathering to be 20.3%, however the thing that matters was not measurably significant.<sup>21</sup> Ozkardes et al in their investigation revealed change pace of 13.3% in early gathering and no change in postponed gathering and saw it as factually insignificant.<sup>12</sup> Agrawal et al in their examination announced that transformation rate in their initial gathering was 16% and in their deferred gathering it

was 8% which they answered to be insignificant.<sup>16</sup> Kolla et al in their investigation revealed twisted contamination in 20% of their initial gathering and in 15% of patients in their postponed group.<sup>13</sup>

Gomes et al thought about early laparoscopic cholecystectomy and late laparoscopic cholecystectomy and announced no twisted infection.<sup>22</sup> Malik et al in their investigation detailed injury disease in 24% of their initial patients and in 20% of their postponed patients and detailed it to be insignificant.<sup>17</sup> Jamil et al detailed 3.77% injury contamination rate in early gathering and 4% in postponed group.<sup>15</sup> They additionally detailed that 1.88% of their initial patients created seroma and hematoma when contrasted with none in the postponed

gathering. Be that as it may, on applying the measurable test they revealed it to be unimportant. In this way, like their examinations in our investigation additionally twisted contamination between the two gatherings was seen as irrelevant.

In our examination intra-stomach ulcer and bile spill were not found in any of the patients in any gathering. No other post-usable entanglement was noted in any patient in any gathering. Kolla et al in their examination revealed post-employable bile spill in 5% of their initial patients and no such occasion in their postponed group.<sup>13</sup> Anyway they announced the occurrence of post-usable intricacies unimportant between the two gatherings.

Gomes et al likewise revealed no bile conduit damage or some other fundamental complexity in any of their initial or postponed group.<sup>22</sup> Jamil et al in their investigation additionally looked at post-usable inconveniences in the early and deferred groups.<sup>15</sup> Post-usable bile spill in their initial gathering was 2.5% when contrasted with none in the postponed gathering. In any case, they announced post-usable confusions between the two gatherings to be immaterial. We found early laparoscopic cholecystectomy protected and doable in the setting of intense cholecystitis with included favorable position of shorter complete medical clinic remain. All out span of medical clinic stay was altogether shorter in the early gathering. It might be because of the way that in the early gathering medical procedure was done in the record confirmation. We infer that early laparoscopic cholecystectomy is a protected technique to be done in intense cholecystitis.

### CONCLUSION:

It can be concluded that while setting the acute cholecystitis, the safe and efficient way is initial level of laparoscopic cholecystectomy in addition with short stay at hospital.

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