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Original Research

Evaluation of optimal time for laparoscopic cholecystectomy following acute cholecystitis attack

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ABSTRACT:
Background: Due to fear of increase morbidity and high rates of conversion to open surgery laparoscopic cholecystectomy was not advised in patients with acute cholecystitis previously. At the present time, acute cholecystitis is a well-known cause of acute abdominal pain and the ultimate treatment is laparoscopic cholecystectomy. But the concern that is when to perform surgery is still controversial. The aim of present study is to find out if laparoscopic cholecystectomy can be carried out for acute cholecystitis irrespective of the time since onset of acute symptoms. **Methods**: A total of 200 laparoscopic cholecystectomies were performed for acute cholecystitis and evaluated for duration of surgery, biliary and other organ injury, conversion rates and postoperative stay by chi square test and paired t-tests using SPSS software. 80 patients underwent laparoscopic cholecystectomy within 48 h to seven days of beginning of symptoms (group A) and 95 patients underwent surgery after 6 weeks of beginning of symptoms (group B). **Results**: the duration of surgery was comparable in both groups but there were no significant difference in conversions of major biliary or other organ injury in any of the two groups. Postoperative stay was also comparable between the two groups but total hospital stay was significantly reduced in group A as compared to group B thus, total cost is also reduced. **Conclusion**: Laparoscopic cholecystectomy can be performed anytime of presentation of acute cholecystitis. Although delaying laparoscopic cholecystectomy was associated with more complications, higher mortality, and higher costs.

Key words: Acute cholecystitis, Timing of surgery, Laparoscopic cholecystectomy.

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INTRODUCTION:

Most specialists were already in conformity that conservative treatment with antibiotics pursued by interim elective Laparoscopic cholecystectomy a little while after the the acute inflammation subsides could result in a more safe operation with a lower transformation rate.[1] At first Laparoscopic cholecystectomy was not indicated in patients with acute cholecystitis due to fear of high morbidity and high rates of conversion to open surgery.[2] The prevalence of cholelithiasis is between 10% and 15%, and roughly 35% of patients build up complications or recurrent symptoms in their life span.[3,4] Even though over 70% of acute cholecystitis reacts to medical treatment in the initial 24-48 hours, laparoscopic cholecystectomy is the perfect treatment of symptomatic gallstone disease and its complications.[5] The probable risk of severe complications and the high conversion rate of Laparoscopic cholecystectomy in period of acute inflammation is a chief concern.[6,7] Afterward, because of expanding experience and trust in Laparoscopic cholecystectomy and technical support, the signs of early Laparoscopic cholecystectomy were reached out to incorporate patients

with acute cholecystitis. Laparoscopic cholecystectomy has been acknowledged as the procedure of preference for treatment of symptomatic gallstones and chronic cholecystitis.[8,9] Its job and its planning in the treatment of intense cholecystitis are questionable. Performing this technique amid the period of acute inflammation are, are related, even in master hands, with a high rate of transformation to open surgery.[10-13] Bringing about the loss of the upsides of this insignificantly invasive procedure. Though, of late laparoscopic cholecystectomy is is viewed as the standard of consideration if the patient is seen within 48 h of the attack of acute cholecystitis because adhesions would not have developed so right after the onset of inflammation.[8] When patients are seen after 48 h from begning of acute cholecystitis, surgeons though want to postpone cholecystectomy and lean towards conservative treatment followed by an interval cholecystectomy.[14]

The justification for such a methodology is, that inflammatory adhesions happen within 48 h and make dissection troublesome and risky, in this way provoking most surgeons to wait for 6 additional weeks to let adhesions subside, allowing them to perform surgery more safely. The disadvantage of such a methodology is, that few patients get repeat of of symptoms such as biliary colic or an additional attack of cholecystitis amid this waiting period.

METHODS

We examined 200 laparoscopic cholecystectomies performed for acute cholecystitis at Tertiary health care centre. All patients included had features of acute cholecystitis on USG at the time of acute presentation at our hospital or elsewhere. Of these, 80 cholecystectomies were performed for acute cholecystitis within 48 h to seven days of symptoms attack (group A), 95 patients underwent surgery 6 weeks or more after the onset of symptoms (group B). They were compared on the following parameters:

1. Duration of surgery.
2. Duration of pot operative stay.
3. Presence of major biliary injury and other surrounding organ injury

Technique

We performed laparoscopic cholecystectomy using a four port technique. The 10 mm umbilical port is used for a 30º laparoscope. A 10 mm epigastric port serves as the main working port; while a 5 mm right hypochondriac port in the midclavicular line acts as the left-hand port for the surgeon. A 5 mm port as right lateral port in anterior axillary line is used by the assistant to hold the fundus of the gallbladder and retract it upward. In case of acutely inflamed tense gallbladders, the contents are first aspirated using a suction & cautery. The Calot's triangle is then dissected and the cystic artery is cauterized with bipolar or unipolar cautery after clipping at proximal end. The cystic duct is divided between ligatures and/or clips. The gall-bladder is then dissected off the liver bed using hook with cautery. Inflamed gallbladders are retrieved with or without using an endobag through the umbilical port or through the epigastric port. Port sites are irrigated regularly. Drain is put through the right lateral port if spillage of gallbladder content occurs.

RESULTS:

Table 1: Outcomes.

	GROUP A	GROUP B
Number of cases	80	90
Duration of surgery (Mean)	49.25±8.15	43.7±9.25
Post operative stay (Days)	4 ±0.85	5 ±0.78
Total hospital stay	6±3.1	9.2±2.23
Major biliary injury	0	0
Other organ injury	0	0
Conversions	2	3

Table 2: Intra operative findings

Mucocele of gall bladder	12	6	P<0.05
Empyema of gall bladder	25	8	P<0.05
Gangrenous gall bladder	08	1	P<0.05
Adhesions	31	43	No significant difference
Use of endobag for retrieval	40	28	P<0.05
Use of tube drain	39	18	P<0.05

DISCUSSION:

The possible risk of severe complications and the high conversion rate of Laparoscopic cholecystectomy in the phase of acute inflammation is a main concern.[6,7] Later, as a result of increasing experience and confidence in Laparoscopic cholecystectomy and technical support, the suggestions of early Laparoscopic cholecystectomy were extended to include patients with acute cholecystitis. Laparoscopic cholecystectomy has been accepted as the method of choice for treatment of Acute cholecystitis.[1,2,8 - 16] The possible hazards of severe problems and the high conversion rate of Laparoscopic cholecystectomy in the level of acute inflammation is an important concern.[6,7] Afterwards, the outcome of increasing experience and confidence in Laparoscopic cholecystectomy and technical support, the indications of early Laparoscopic cholecystectomy were extended to include patients with acute cholecystitis. Laparoscopic cholecystectomy is accepted as the method of choice for treatment of cholecystitis. While the duration of surgery was longer when laparoscopic cholecystectomy was performed for acute cholecystitis within 6 weeks of the attack of cholecystitis at first, the time of post-operative stay and complications were comparable.[12,14] There was no significant difference in any of the parameters compared between laparoscopic cholecystectomy performed within 48 hours to within seven days of acute cholecystitis and surgery performed after 6 weeks of the attack of acute cholecystitis.1,8-16 The longer duration of surgery for group 1 compared to group 2 could be attributed to the significantly higher percentage of gallbladder filled with pus, gangrenous gall bladder come across during surgery, and the time taken for endobag retrieval and drain placement, although it was comparable in both groups.

Al Qasabi et al. in their study reported conversion rates of 28.7% and mean operative times of 98 min for lap cholecystectomy for acute cholecystitis.[13] Lo et al[15] in their study compared early (patients presenting within 120 h of the onset of symptoms) with interval cholecystectomy (patients undergoing surgery 6 weeks after the onset of acute symptoms). They reported conversion rates of 7.4 % versus 20%, complication rates of 22% vs 20%, operative times of 141.5+55.2 min versus 108.8+47.4 min, and postoperative stay of 4.6+3.2 days versus 2.5+ 1.4 days) but reduced the total hospital stay (6.4 days vs. 12.4 days; $p < 0.001$) between the two groups.[15] The results of a randomized controlled trial comparing early laparoscopic cholecystectomy after admission with delayed laparoscopic cholecystectomy showed that performing the surgery early was superior in terms of a lower conversion rate to open surgery and shorter total hospital stay.[14,15-17] the above results indicate that early laparoscopic cholecystectomy is preferable in patients with acute cholecystitis.

CONCLUSION: Laparoscopic cholecystectomy can be performed anytime of presentation of acute cholecystitis. Although delaying laparoscopic cholecystectomy was associated with more complications, higher mortality, and higher costs.

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