

ORIGINAL

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## EARLY LAPAROSCOPIC CHOLECYSTECTOMY;



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**ABSTRACT...** [rajthakur99@yahoo.com](mailto:rajthakur99@yahoo.com) **Objective:** To assess the clinical out come of laparoscopic Cholecystectomy for management of acute cholecystitis and to evaluate its safety, frequency of complications. **Design:** Observational study. **Setting:** Surgical Units II and III Of Chandka Medical College Hospital Larkana.. **Period:** From 01.09.2003 up to 31.12.2007 **Patients & Methods:** A total of 100 consecutive cases of, acute cholecystitis confirmed subsequently by abdominal ultrasound scanning, who were admitted for early laparoscopic cholecystectomy. **Results:** There was female preponderance with male to Female ratio of 1:4.5. Mean age was 45.75, SD 11.99, and most of patients were received with in 24 hours from the onset of symptoms. In 51 patients ultrasound reveals Edematous GB in 24(24%), Empyema 8(8%), Contracted 10(10%), Perforated 5(5%) and Gangrenous GB in 4(4%) while 49(49%) have acute cholecystitis with cholelithiasis. The conversion rate was 6%; The minimum time taken during the procedure was 50 minutes. No mortality was reported in this series. **Conclusion:** Emergency / early cholecystectomy is reliable and safe modality cost effective, and timely surgery with modern conception in the management of acute cholecystitis, because of accelerated recovery, negligible wound infection or related complication, and less postoperative pain. So Lap Chole should be preferred technique now days for the treatment of acute cholecystitis at our Institute.

**Key words:** LC : Lap Chole =Laparoscopic cholecystectomy, Acute cholecystitis.

## INTRODUCTION

The Surgical management of patients presenting with acute cholecystitis remain controversial<sup>1</sup>. The scope of

minimal access therapy is to minimize the traumatic insult to the patients without compromising the safety and efficacy of treatment compared with conventional open

surgery<sup>2</sup>. Traditional open cholecystectomy has long been accepted as gold standard treatment of gall stones<sup>3</sup>. Revolution in the treatment of gall stones came in 1987, when first laparoscopic cholecystectomy was carried out by Phillip Mouret et al in Lyon<sup>4,5,6</sup>, though first reported series was by Dubois et al<sup>5,6,7</sup>.

Since first laparoscopic cholecystectomy in Pakistan in 1991, it has been enthusiastically accepted. Some of the problems that are faced during laparoscopic cholecystectomy can be avoided by early detection before laparoscopy like ascites & cirrhosis. Other problems can be avoided or dealt with efficiently during the procedure by a well-trained and experienced team, in order to minimize the chances of conversion to open surgery<sup>8</sup>. Now a days laparoscopic cholecystectomy has become an established procedure due to less pain shortened postoperative hospitalization and minimum morbidity<sup>9,10,11</sup>. It was first established in private sector and then gradually in public sector. The indications for LC remain unchanged. All patients with symptomatic cholelithiasis and / or acute cholecystitis are candidates. Body morphology, age, and previous abdominal surgical intervention are no longer contraindications. Emergency lap chole for the management of acute cholecystitis is considered to be associated with more complications and increased risk of common bile duct injury<sup>12</sup>. The complications can be minimized with careful patient selection, meticulous operative dissection and judicious use of cholangiography along with sound surgical judgment. Complications of LC, sometimes related to intraperitoneal access, and at other times to a specific step of the procedure are reported with similar rates by most authors. Reported complications include intra operative bile spillage, infectious complications secondary to calculus left in the intraabdominal cavity. injury to duodenum, injury to transverse colon, postoperative bile leaks, postoperative persistent right upper quadrant pain, missed or retained stone in common bile duct, postoperative diarrhea, postoperative ileus, and port site hernia. The majority of iatrogenic injuries can be successfully avoided by appreciating the limitations and pitfalls of laparoscopic surgery, and by carefully dissecting the Calot's triangle before dividing any structure. Most surgeons can perform this procedure

quickly with a minimal conversion rate<sup>12,13</sup>.

We are going to present our experience of 100 consecutive, selected cases having acute cholecystitis treated as early lap chole performed at our setup. This study will help us in evaluating the safety and merits of laparoscopic cholecystectomy for treatment of acute cholecystitis and results will be compared with other series.

## PATIENTS & METHODS

This study of 100 consecutive cases with diagnosis of, Acute cholecystitis confirmed subsequently by abdominal ultrasound scanning were admitted and designed for undergoing early Laparoscopic cholecystectomy during same admission at Surgical Units II and III Of Chandka Medical College Hospital Larkana from 01.09.2003 up to 31.12.08 for the period of 4 and half years duration. Diagnosis of acute cholecystitis was based on clinical evidence of pain, guarding and tenderness in right upper abdominal quadrant fever, nausea and vomiting associated with leucocytosis. Abdominal ultrasound performed in all cases and confirmed calculus cholelithiasis with evidence of acute cholecystitis. All patients with the following condition were also excluded from the study: Very severe form of acute cholecystitis, bile duct calculous, obstructive jaundice, cholangitis, acute pancreatitis, portal hypertension, gallbladder malignancy, sepsis, severe cardiopulmonary disease or any other unacceptable anesthetic risk. Although these exclusion criteria have been reduced quite drastically over the past couple of years but we kept following these criteria primarily because of lack of adequate facilities. Pre operative work up including blood complete examination, urine analysis, blood urea, serum creatinine, blood sugar, serum billurubin, alkaline phosphatase, transaminases and abdominal ultrasonography especially for gallbladder, CBD, liver and pancreas were advised. Those with normal LFT and negative HBs Ag selected for lap-chole.. Other investigations performed ECG and chest X-ray for the purposes of anesthetic fitness as well as for any concomitant disease.

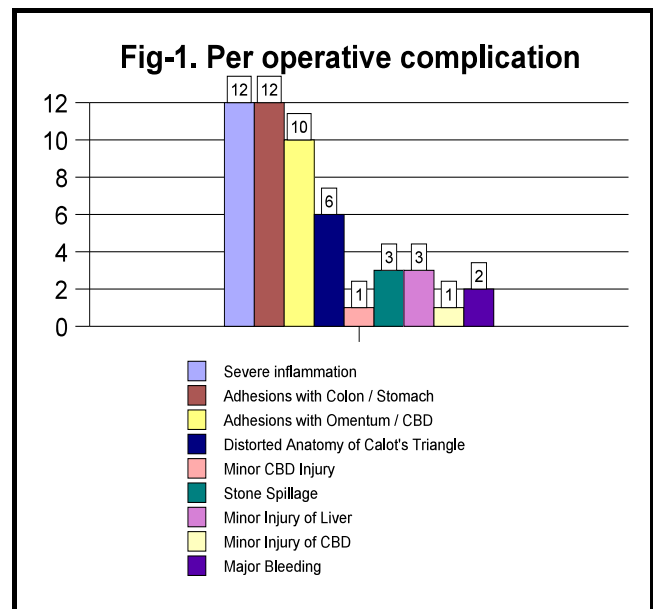
An informed consents taken from the patients pre-

operatively, explaining the risk of conversion to open operation. All patients routinely were catheterized in the operating theatre. Second generation Cephalosporin (Cefuroxime Sodium) started with diagnosis, given perioperatively. N/G tube passed. Once patient feasible for LC, operated and findings on operation, other operative complications if they were, recorded, reasons for conversion, and patient's evaluation of operative experience, were carried out. Statistical data analysis was carried out on statistical packages for social sciences (SPSS) 10.0 for windows. Diclofenac suppository of 100 mg was introduced into the rectum after the induction of anesthesia. In all patients pneumoperitoneum was created with Verres needle at the infra-umbilical site, then trocar cannula of 10mm was introduced through which telescope was inserted to visualize the abdominal cavity. Other three ports were made, 1 of 10mm at epigastrium and 2 of 5mm, each on right side of abdomen and then further dissection carried out i.e. identification of cystic duct and artery which were clipped with Liga clip and then gall bladder was separated from liver bed with the help of diathermy. The gall bladder was extracted through umbilical port after putting in the rubber bag. Fig 4.

## RESULTS

This is a study of 100 cases of Laparoscopic cholecystectomy in cases of acute cholecystitis. The age of patients ranges from 22-72 years with mean age 45.62 SD11.99, with maximum percentage of patients 45(45%) are in 40s. 82 patients (82%) were female and 18 patients (18%) were males, with female to male ratio of 4.5:1. Clinical features were, upper outer quadrant abdominal pain in 88(88%) patients, fever in 78(78%) patients, nausea vomiting 24(24%) patients. On the basis of clinical findings suggestive of acute cholecystitis, further investigated for radiological findings. Leucocytosis was detected in almost all patients with more than 12000 /cmm, and in 18(18%) patients more than 15000 cells per cmm. All patients were operated within 01 week of presentation of symptoms. Ultrasound findings were reported as edematous GB, in 24(24%) patients, gangrenous GB 04(4%) patients, contracted GB 10(10%) patients, perforated GB 5(5%) patients, rest of the patients 49(49%) with calculus gall bladder

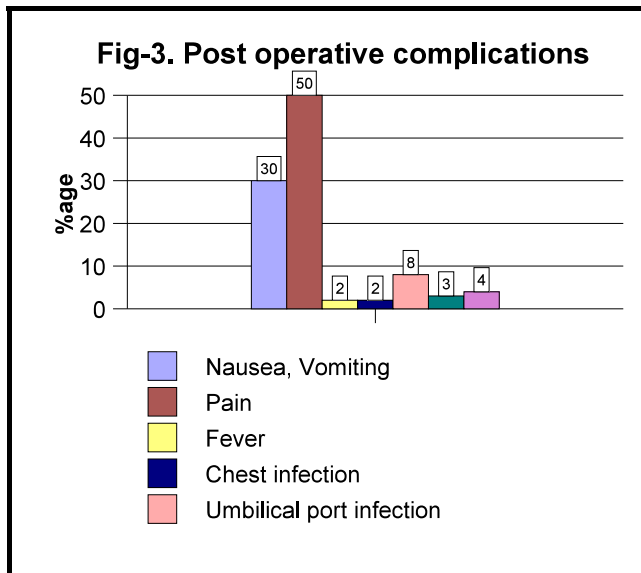
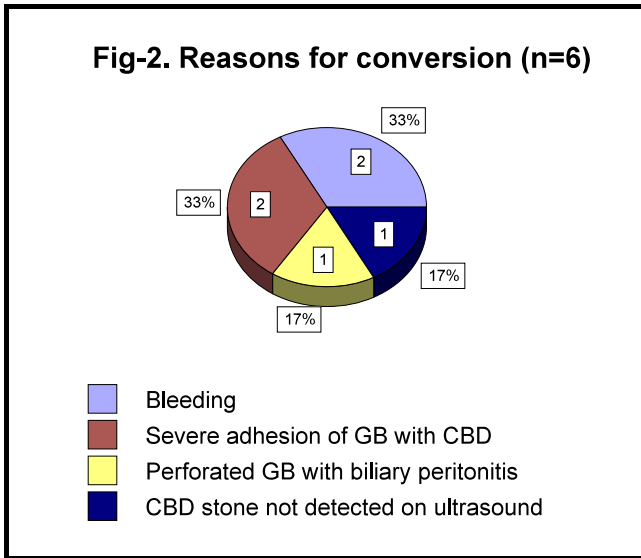
Ultrasonography was accurate in 100(100%) for the diagnosis of cholelithiasis. However, stone in common bile duct (choledocholithiasis) present in 1(1%) case were missed by sonologist. Per operatively 2(2%) patients had bleeding from liver bed, but controlled with swab pressure and diathermy, Stones spillage occurred in 3(3%) cases which were either picked up with forceps or smaller one sucked out with 10 mm suction tube. Fig 1.



The drain was placed in 2(2%) cases, was removed after 24 hours. 94(94%) of cases laparoscopic cholecystectomy was successfully completed. In 06(06%) cases laparoscopic procedure was converted to open Cholecystectomy. Reasons of conversion were, acute cholecystitis with severe adhesions which caused bleeding in 2(2%) cases, obscure anatomy at Calot's triangle in 2(2%) cases and stones in CBD missed on ultrasound in 11(11%) cases. Perforated GB with biliary peritonitis 1(1%). Fig 2.

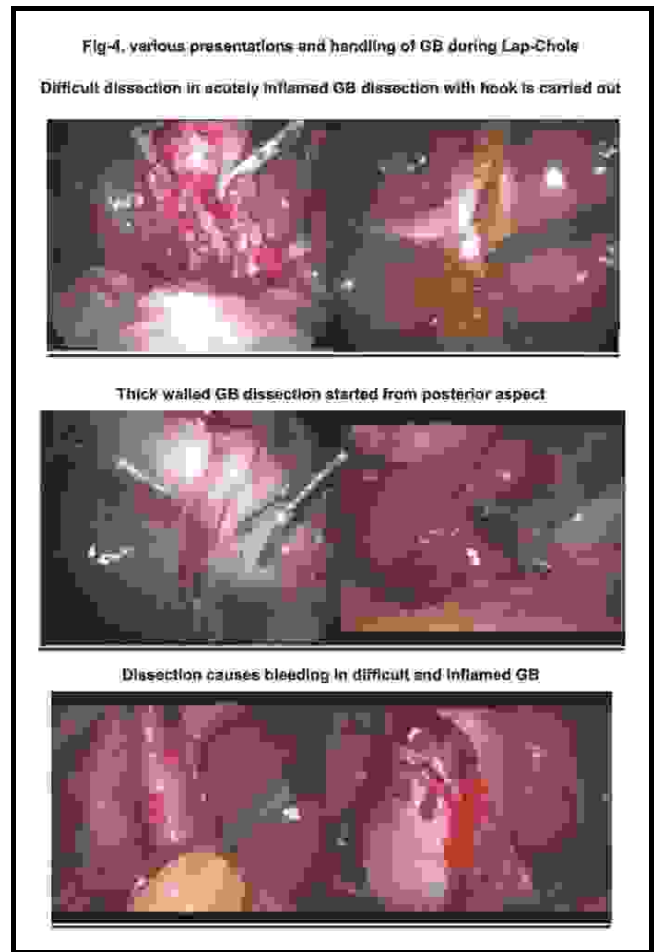
The operative time in cases where major complications were encountered, in these cases the maximum time taken was 1 hour 45 minutes. However in simple cases, operation completed in 50 minutes. So the average time taken was 1 hour 15 minutes. 30(30%) patients had nausea and vomiting for 1st 24 hours, 50(50%) cases felt

excessive pain at the site of surgery for more than 24 hours then relieved progressively. 08(8%) cases developed umbilical port infection which was settled on antibiotics and dressings, Persistent abdominal pain was found in 3(3%) cases. prolonged ileus in (>36 hours) was noted in 4(4%) of patients .Fig 3.



The postoperative hospital stay in majority 72(72%) patients was 2 days and 22 patients were discharged by completing 3days. While 06 patients who required conversion needed more than 03 day hospital stays. No

mortality was noted.



**DISCUSSION**

The popularity of LC both with patients and surgeon is such that this procedure now exceeds open cholecystectomy because of its promise for reduced morbidity<sup>14</sup>. LC performed by experienced surgeons is a safe, effective technique for the treatment, of acute cholecystitis .Patients treated within 48 hours of onset of symptoms experience lower conversion rate to an open procedure, shortened operative time and reduced hospitalization<sup>15</sup>. Laparoscopic cholecystectomy has gained favor among surgeons and popularity among patients as it offers minimal surgical trauma, reduced hospital stay and early resumption of normal working activity. During the initial phase, many surgeons performed randomized studies to evaluate LC versus open procedure. This is no longer a matter for discussion

and LC is now the procedure of choice for treating GB stones<sup>16</sup>.

The aim of our study was to determine the types and incidence of complications of LC, and the ways of its management and prevention. In cases of acute cholecystitis. Our series of 100 patients treated in surgical units II and III of Chandka Medical College Hospital Larkana in a period of approximately 4 plus years, represents a homogeneous experience, indications, technique, criteria for converting the procedure.

In our study the rate of female patients is comparatively same as one of the series with the male female ratio of 1:4.5. Mean age in our series is 45.62 SD 11.99 years which is comparable to other series is ranging from 42 years to 51.2 years<sup>14,16</sup>.

The conversion rate of 6% is always expected and justified which is ranging in other series from 3.6-12%. Conversion was necessary because of adhesions from previous surgery, abnormal anatomy, intra operative bleeding, and- patients with acute cholecystitis when it was difficult to handle tense gallbladder. Our conversion rate of 6% is justified as all of our patients were suffering from acute cholecystitis which is comparable to other series<sup>17,18</sup>.

The incidence and type of complications after laparoscopic cholecystectomy vary considerably. The incidence of major CBD injuries in our series is nil however it is mentioned in literature ranging from 0-3%<sup>11,16</sup>. Injury to adjacent organs including bowel was 0%. The lower incidence of the complication was because of the fact that the surgeons were fairly trained in minimal access surgery before conduction of this study, which achieved a success rate of 94% without having any mortality which is comparable to others. Other complications were eight (8%) cases develop umbilical port infection which was settled on antibiotics and dressings this is relatively in upper range of other series. Prolonged abdominal pain was found in three cases (3%), which is nearly same as one of series as quoted in literature<sup>19</sup>.

## CONCLUSION

It is concluded from above discussion that laparoscopic cholecystectomy is an effective and safe technique of treating in cases of acute cholecystitis because of accelerated recovery, easily treatable wound infection and wound related complication, less postoperative pain and short hospital stay. The experienced and well-trained team involved in laparoscopic surgery can minimize the postoperative complications, decrease the conversion rate. So Lap Chloe should be preferred technique now days for the treatment of acute cholecystitis at our Institute.

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**LIFE IS FULL WITH  
CHALLENGES &  
DULL WITHOUT**

Shuja Tahir