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## Laparoscopic Cholecystectomy is a Safe and Effective Method in Treating Acute Cholecystitis

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### Abstract

In a series of 230 cases of laparoscopic cholecystectomy, the authors attempted laparoscopic cholecystectomy in 18 patients having the clinical picture of acute cholecystitis. 4 cases were non calculary by preoperative sonar which revealed thick oedematous wall of the gall bladder in 13 patients. All patients were scheduled for operation 72 hours or less from the attack. A significant discrepancy between the clinical picture and the laparoscopic finding of the gall bladder. The average operative time was 105 minutes. Dissection of the gall bladder was done by «fundus first» method in 3 cases. The hospital stay ranged from 18 : 48 hours. Two cases were converted to open surgery because of severe inflammation obscuring the anatomy. No mortality or significant morbidity were reported. The authors concluded that laparoscopic cholecystectomy is safe and effective method in treating patients with acute cholecystitis and these patients should not be denied the benefits of laparoscopic cholecystectomy in centers with appropriate experience.

### Introduction

LAPAROSCOPIC cholecystectomy has been utilised in the past several years as an alternative to open cholecystectomy. The advantages of laparoscopic procedure include less patient discomfort, shorter hospitalization and quicker return to full activities postoperatively [1].

The presence of empyema or severe inflammation of the gall bladder was initially regarded as a contraindication to this technique [2,3].

Nevertheless, laparoscopic cholecystectomy for acute cholecystitis has been reported with a varied degree of technical success in limited series [4,5,6].

The authors describe their initial experience in those patients who presented to them with picture of acute cholecystitis.

### Material and Methods

Between January 1992 and to October 1993 laparoscopic cholecystectomy was attempted in 200 patients with gall bladder

diseases, 18 patients had a picture of acute cholecystitis (acute onset, fever, abdominal pain, guarding and positive sonographic findings). In this series patients with severely inflamed gall bladder at laparoscopy who had not the clinical presentation of acute cholecystitis were excluded.

There were 11 females and 7 males. Their ages ranged from 22 to 73 (median : 41). Preoperative abdominal ultrasound revealed 4 non calcular and 14 calcular cholecystitis, the sonographic description of the 4 non calcular and 11 calcular gall bladder entailed thick oedematous wall and tender on probing. Detection of impacted stones in Hartman's pouch was found in 8 cases.

ERCP papillotomy was done for 2 patients 3 & 5 months before the attack. 8 patients had previous abdominal incisions. All patients had I.V. antibiotics, (2nd generation cephalosporin), I.V. fluids and scheduled for operation within 72 hours from the attack.

Laparoscopic cholecystectomy was attempted under general anaesthesia with placement of laparoscopic cannulae in the standard position. In patients who had undergone previous extensive abdominal surgery an alternative initial way of insufflation using a hemostat and the forefinger to enter the peritoneal cavity by a metal cannula around the umbilicus is used.

Dissection was performed with the cautery hook technique or bluntly using a suction instrument, a Maryland forceps or

piece of gauze carried on a grasper. Suction of gall bladder contents to facilitate grasping was done whenever needed.

Fundus first dissection technique or dissection from lateral to medial was performed in cases of empyema in which hilar dissection was difficult. After complete or partial mobilization of the gall bladder from the liver bed, a clear access and exposure to the cystic duct and artery is provided.

### Results

The operative findings at laparoscopy are shown in table (1).

Table (1) : Operative Findings at Laparoscopies.

Findings at laparoscopy	No. of patients	%
Abdominal adhesions	8	44
Empyema	8	44
Localised necrosis	3	17
Adhesions to gall bladder	14	78
Perforation	2	11
Easily grasped, no oedema in Calot's triangle	6	33
Cirrhotic liver	2	11

Two cases were converted to open surgery because of severe inflammation obscuring the anatomy.

The operative time ranged from 50-200 minutes with an average of 105 minutes.

There were discrepancy between the clinical picture and laparoscopic findings.

4 patients out of 10 patients with severe clinical picture had minimal adhesions and their gall bladders were easily dissected.

On removing the gall bladder there were 4 non-calicular, and 14 calculous cases coinciding with the preoperative ultrasonography. In 3 cases dissection of the gall bladder from the liver bed was completed by «fundus first» i.e. retrograde manner. In one case the liver was cirrhotic not allowing the liver to be retracted cephalad, the second was a huge empyema where the Calot triangle could not be seen and in the third one the anatomy in Calot triangle was not clear. A tube drain was put in 8 patients for 24 hours, others need no drain. The hospital stay was 28 hours ranging from 18 to 48 hours.

No significant morbidity was detected in 17 patients. One patient had post operative obstructive jaundice after 5 weeks which was relieved by E.R.C.P. sphincterotomy, no mortality was recorded within 3 months.

Table (2) : Success Rate in the Laparoscopic Treatment of Acute Cholecystectomy in Different Series.

Author	year	%
Wilson et al.	1992	94
Unger et al.	1991	93
Flower et al.	1991	85
Jacob's et al.	1991	67
This series	1993	89

### Discussion

Laparoscopic cholecystectomy for chronic cholecystitis is a safe and cost effective treatment for symptomatic gall

stone disease and its use in elective surgery is well accepted [7].

Early pioneers initially considered acute inflammation a contraindication for laparoscopic treatment [3] or an indication for conversion to open surgery [8]. Even before laparoscopic surgery, managing acute cholecystitis was controversial, some advocating medical treatment and delayed surgery while others preferred early surgery.

The advantages of the shorter hospital stay and early return to work claimed for acute surgery would be lost if inflammation were considered to be a contraindication to laparoscopic cholecystectomy [9].

The results of the work show disparity between laparoscopic findings and clinical findings in acute cholecystitis. This agrees with Sackier [10] & Cooperman [4] who stated that some patients with a paucity of symptoms have chronically contracted or embedded gall bladders while others with acute symptoms have no adhesions and easily dissected gall bladders.

This confirms the value of performing a diagnostic laparoscopy and a trial dissection.

The technique of «Fundus First» dissection of the gall bladder was used in 3 cases which proved to be useful in cases of cirrhotics or very thick wall and empyema. This technique was also adopted with Cooperman [4] & Wilson et al. [9].

Two cases out of 18 (11%) were converted to open surgery because of severe inflammations obscuring the anatomy and the figure is reasonably comparable with

the published series dealing with laparoscopic management of acute cholecystitis which gave success rate varying from which gave success rate of 94% [9], 93% [6], 85% [5] & 67% [11] (Table 2).

This series as well as all other series reported no mortality and very limited morbidity e.g. urinary retention, mild wound infection and shoulder pain.

In spite of the good results gained by in laparoscopic management of acute cholecystitis, Sackier statement should be always remembered : «As a rule, if the operation is not progressing after one hour, no clear anatomy has been obtained, then the conversion is a wise move» [10].

By time the surgeon's opinion concerning laparoscopic management of acute cholecystitis has changed contrary to earlier predictions, it appears that acute cholecystitis should be considered a relative rather than an absolute contraindication laparoscopic surgery. The most important parameter in determining the feasibility of attempting laparoscopic cholecystectomy in the setting of acute inflammation appears to be the experience of the surgeon. Also Sackier [10] stated that our experience shows that an acute cholecystitis as well as chronic shrunken gall bladders are not contraindications to laparoscopic approach. However, these cases are not for beginners.

As laparoscopic cholecystectomy for acute cholecystitis proved to be safe and effective and because cases of acute cholecystitis constitute an increasing proportion of the surgical workload, the authors agree with Wilson and his colleagues [9] in sta-

ting that these patients should not be denied the benefits of laparoscopic cholecystectomy in centers with appropriate experience.

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