

# LAPAROSCOPIC CHOLECYSTECTOMY IN ACUTE VS CHRONIC CHOLECYSTITIS

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## ABSTRACT

**Objective:** The study was done to see the efficacy and the feasibility of laparoscopic cholecystectomy in acute versus chronic cholecystitis on the basis of technical difficulties post-operative complication and hospital stay.

**Study Designs:** Case control study.

**Setting & Duration:** Surgical Unit "D", Khyber Teaching Hospital Peshawar from June 2005 to May 2006.

**Methodology:** In this study one hundred cases were recruited. Patients were admitted through Out Patient Department or Emergency after necessary baseline investigations. Group I were patients who had been diagnosed as Chronic Cholecystitis while Group II were patients labeled as Acute Cholecystitis. All the patients were operated on the next operation list by Laparoscopic technique.

**Results:** In this study 100 cases were submitted for laparoscopic cholecystectomy, a total of 84 cases (Group I), out of 100 cases were of chronic cholecystitis and 16 cases (Group II) were of acute cholecystitis. Average age of patients was 50 years. Average operating time was 42.8 minutes for Group I while it was 58.3 minutes for Group II. Two cases were converted in Group I (Chronic Cholecystitis) while one case was converted in Group II. Average hospital stay was similar in both groups and so was the use of drains.

**Conclusion:** Laparoscopic Cholecystectomy is safe and effective in both Acute and Chronic Cholecystitis.

**KEY WORDS:** Acute Cholecystitis, Chronic Cholecystitis, Comparative Study, Laparoscopic Cholecystectomy

## INTRODUCTION

Laparoscopic Cholecystectomy is a minimally invasive procedure where the gall bladder is removed using laparoscopic techniques. The indications are the same as open cholecystectomy.<sup>1</sup>

There is less pain, less hospitalization, early recovery, less cost and have good cosmetic results.<sup>2</sup> Laparoscopic cholecystectomy has a significant effect on the treatment of gall stone disease. Both acute and chronic cholecystitis can be safely managed with this procedure.<sup>3</sup> Early scheduled Laparoscopic cholecystectomy following

percutaneous transhepatic gall bladder drainage for patient with Acute cholecystitis.

Laparoscopic cholecystectomy was first performed in France in 1987 by Mouret, Qubois and Pasat and the 1st such type operation was performed in Pakistan 1991. The first laparoscopic cholecystectomy in Peshawar was performed in Khyber Teaching Hospital Peshawar by a visiting surgeon from Singapore in 1992.<sup>4</sup> But now days it is a gold standard treatment for symptomatic gall bladder stones disease, both for acute and chronic cholecystitis.<sup>5</sup> It is the most common operation performed world wide now days. The rate of cholecystectomy increased by 20% due to the introduction of laparoscopic cholecystectomy because of the good results the patients are not hesitating for the procedure.<sup>6,7</sup>

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## METHODOLOGY

The study was carried out in Khyber Teaching Hospital, Peshawar, Surgical D Unit from June 2005 to May 2006. A total 100 cases were included in the study who were admitted to Surgical D Unit, through Out Patient

Department or Emergency with the diagnosis of gall stone disease the patients were divided into two groups Group I comprising of 84 patients underwent laparoscopic cholecystectomy for chronic cholecystitis and Group II comprising of 16 patients who underwent laparoscopic cholecystectomy for acute cholecystitis.

Both groups were compared regarding case selection technical difficulties, operative complications, post-operative complication, hospital stay and expenses

## RESULTS

In this study 100 cases were submitted for laparoscopic cholecystectomy, a total of 84 cases (Group I), out of 100 cases were of chronic cholecystitis and 16 cases (Group II) were of acute cholecystitis. Average age of patients was 50 years details are in Table I.

The operative time was a bit longer in the acute cholecystitis in a few cases average operating time was 42.8 minutes for Group I while it was 58.3 min. for Group II details can be see in Table II. Drain was frequently required in the acute cases see Table III. However the post-operative pain and Hospital stay equally less in both acute and chronic cholecystitis.

The complications were comparatively equal in both Groups. In group I, one case was opened because of profuse bleeding from the injured cystic artery during dissection. In the 2nd group two cases were converted to open cholecystectomy. In one case the common hepatic duct was injured by electrocautery during dissection and haemostasis of bleeding from cystic artery, because of thick fibrous adhesions in the Calot's triangle. The 2nd case was a late conversion due to biliary leakage, in which cystic duct stump was slough off. There was no single mortality and the uneventful complications were comparable in both groups.

There was less pain, short hospital stay, good cosmetic results and early return to work which accounts for less cost in this technique.

**Table I. Age Distribution**

Age	Acute Cholecystitis	Chronic Cholecystitis
Below 20	0	2
21-40	4	26
41-60	10	54
61-80	2	2
Total	16	84

## DISCUSSION

The goal of Laparoscopic Cholecystectomy is to safely remove the gall bladder with low mortality, little morbidity and early recovery and good cosmetic result.<sup>8</sup> Laparoscopic cholecystectomy is a safe valid alternative to open cholecystectomy in patient with acute cholecystitis. This technique has a low rate of complication, implies a shorter hospital stay, and offers the patient a more comfortable post-operative period than open cholecystectomy.<sup>9</sup> In acute cholecystitis if the patient is at high risk for general anesthesia because of underlying medical condition, so percutaneous tube cholecystostomy can be done under local anesthesia or laparoscopic tube cholecystostomy can be done and latter on when the sepsis are controlled a proper laparoscopic cholecystectomy can be done safely.<sup>10,11</sup> In the beginning the conversion rate in acute laparoscopic cholecystectomy is bit higher and so the operating time, but the total hospital stay is short and significant advantage over the open strategy.<sup>12</sup> When laparoscopic cholecystectomy is performed within the first two days of acute cholecystitis the complication is low. Although the rate of conversion is more in acute disease as compared to elective surgery, but the benefit are still more in term of short hospital stay, early discharge to home and start of work. So early laparoscopic cholecystectomy is an acceptable approach to acute cholecystitis for the experienced laparoscopic surgeons.<sup>13</sup> In acute cases, the patient condition must be thoroughly assessed both clinically and laboratory investigations i.e. Leucocyte count and ultrasonography. If there is empyema gall bladder, percutaneous tube cholecystostomy should be performed and latter on after a week or two laparoscopic cholecystectomy shall be performed. If the leucocyte count is not improving and the patient clinical condition is deteriorating, the open cholecystectomy should be done. If the clinical condition and leucocytes count is improving, then it is a clear indication for laparoscopic cholecystectomy.<sup>14</sup> A laparoscopic cholecystectomy may be safely performed by experienced surgeons in patients with acute cholecystitis. To ensure a low complication rate, a low threshold for converting the procedure to an open cholecystectomy

**Table II. Operating Time**

Operating Time	Acute Cholecystitis	Chronic Cholecystitis
Upto 20 min	--	4 (4.76%)
21-40	4 (25%)	39 (46.42%)
41-61	7 (43.75%)	25 (29.76%)
61-80	4 (25%)	13 (15.47%)
> 80	1 (6.25%)	2 (2.38%)

Drain	Acute	Chronic
No drain	4 (25%)	26 (30.95%)
Upto 12 hrs	3 (18.75%)	17 (20.24%)
Upto 24 hrs	8 (50%)	41 (48.81%)
Upto 48 hrs	1 (6.25%)	--

**Table III. Use of drain and post-op duration**

must be maintained if the ductal and vascular anatomy can not be safely demonstrated.<sup>15</sup> In gangrenous cholecystitis the operation time is significantly long in laparoscopic cholecystectomy, but the hospital stay for laparoscopic cholecystectomy is significantly shorter than open procedure. The use of laparoscopic approach is questionable in case of gangrenous cholecystitis.<sup>16</sup> There is no significant difference in complications between the two groups, estimated blood loss is significantly lower in those receiving early laparoscopic cholecystectomy. There is also significant reduction in total hospital stay and hospital charges in early laparoscopic cholecystectomy.<sup>17</sup>

## CONCLUSION

Both acute and chronic cholecystitis can be safely treated with laparoscopic cholecystectomy, if the surgeon is experienced and sufficient facilities are available. The surgeons must have always a low threshold for conversion to open cholecystectomy. Further more, early laparoscopic intervention significantly reduce operation time, blood loss, hospital days and hospital charges in acute cholecystitis.

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Hospital Stay	Acute Cases	Chronic Cases
Upto 2 days	7 (43.75%)	33 (39.28%)
3-4 days	7 (43.75%)	33 (39.28%)
5-6 days	2 (12.60%)	16 (19.04%)
> 7 days	--	2 (2.38%)

**Table IV. Hospital Stay**

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