

# Laparoscopic Cholecystectomy: An Experience of 200 Cases

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## Abstract

The surgical management of gallstones has been revolutionized after the advent of laparoscopic-cholecystectomy since 1985/87. This minimally invasive technique has virtually become the gold standard in the management of cholelithiasis. We share our experience of 200 cases of laparoscopic-cholecystectomy performed in symptomatic cholelithiasis over a period of five years from 1998 to 2002 in Govt. Medical College, Jammu. There were 32 males and 168 females in the study group. Maximum age of the patients was 65-yr and minimum 17-yr. Patients with high-risk medical problems; deranged LFT, CBD stones and acute cholecystitis were excluded from this study. Average operation time was 61.3 minute (40-130 mt), post-operative analgesic used were 3.02 doses per patient (2-15 doses), post-operative hospital stay was 4.34 days (2-26 days) and time to return to work was 13.2 days (10-40 days). Rate of conversion to conventional-cholecystectomy was 4%. There was no mortality and negligible/acceptable morbidity. No complications were observed in the follow up period ranging from 2 weeks to 6 months. The patients were quite satisfied with the outcome of the procedure.

## Key Words

Cholelithiasis, laparoscopic-cholecystectomy, minimally invasive surgery.

## Introduction

Gallstone disease, one of the commonest biliary tract disorders known since ages requires surgical intervention for total cure (1,2). Conventional-cholecystectomy have enjoyed unchallenged supremacy as treatment of choice for cholelithiasis for more than 100 years but its preference in the surgical fraternity is slowly and steadily decreasing after the invent of minimally invasive surgery like mini-cholecystectomy in 1983 and laparoscopic-cholecystectomy (LC) in 1985/1987 (3-5). Infact laparoscopic-cholecystectomy has revolutionised the treatment of gallstone disease, being the most remarkable surgical innovations of 20th century. It has become gold standard for the treatment of cholelithiasis (6, 7). But lot

of experience and costly equipment is required for the same and a "Steep Learning Curve" still exists for the procedure especially in developing world (8) and centre like ours. Moreover, outcome and acceptability of LC requires prospective clinical trials especially in center like ours. We share our experience of 200 cases of laparoscopic-cholecystectomy done in symptomatic gallstones in Government Medical College, Jammu.

## Material and Methods

Two hundred patients (32 males and 168 females) with symptomatic cholelithiasis admitted in the Deptt. of Surgery Govt. Medical College Hospital , Jammu from 1998 to 2002 were subjected to laparoscopic-

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cholecystectomy. Maximum age of patients was 65-year and minimum 17-year. Patients with high-risk medical problems; deranged LFT, CBD stones and acute cholecystitis were kept out of the purview of this study. All the patients were operated under general anaesthesia. We completed laparoscopic-cholecystectomy using American technique by standard four steps in all the cases in study group (2). On completion of laparoscopic-cholecystectomy hemostasis was secured, abdominal cavity irrigated with normal saline and sucked clean. Drain was placed in almost all the cases (n=196), through the lateral port and positioned in subhepatic space. The abdominal cavity was deflated of the gas before closing the ports with silk or vicryl.

### Results

We successfully completed laparoscopic cholecystectomy in 192 patients, 8 (4%) requiring conversion to conventional-cholecystectomy. There was no mortality and negligible morbidity. In 192 cases drain was kept in Morrison's pouch, whereas in 36 cases nasogastric suction was required. In majority of patients (n=170) the drain was removed by second post-operative day, whereas in 20 patients nasogastric tube was removed on the first post-operative day. The need for nasogastric suction arose due to post-operative nausea/vomiting. We used analgesic (inj. Diclofenac sodium) on first day on eight hourly basis, whereas, from first post operative day it was given on demand. The severity of pain was calculated by visual analogue score. Results of the study are detailed in Table 1 to 4.

**Table 1: Age incidence of patients.**

Findings*	No. of patients
No adhesions	104
Minimal adhesions	58
Dense adhesions	10
Obliteration of Calot's triangle	08
Contracted gall bladder	12
Mucocele/Emphyema	04
Free floating gall bladder	04

\*More than one finding seen in one case.

**Table 2: Intra-operative complications.**

Complications*	No. of cases
Perforation of gall bladder	60
Spilled stones	20
Spilled bile	60
Soiling of wound by bile/stones	20
Slipped cystic duct ligature	01
Cystic artery bleeding	02

\*More than one complication observed in one case.

**Table 3: Operative/post-operative evaluations.**

Operation time*	61.3 mt (40-130)*
Peritoneal drainage	196 cases
Nasogastric suction	36 cases
Post-operative analgesics	3.02 doses (2-15)*
Post-operative hospital stay	3.48 days (2-26)*
Return to work	13.2 days (2-26)*

\*Range

**Table 4: Post-operative complications.**

Complications*	No. of cases
Prolonged drainage	04
Prolonged ileus	08
Nausea/vomiting	40
Subhepatic collection	08
Wound infection	12
Post-operative fever	08
Jaundice	02

\*More than one complication seen in single case.

### Discussion

Approximately 10 to 27% of the adult population of USA has gallstones. India at large and this part of country in particular is no exception to it and as a cause of hospitalization, gallstones are the most common and costly digestive disease (9-11). A variety of non-surgical approaches have been developed and utilized in selected cases. Since the non-surgical therapies have proved ineffective by way of having severe restriction on their applicability, the surgical removal of gall bladder has been the gold standard for the treatment of symptomatic

gallstones, ensuring the permanent cure (12-14). The technique of laparoscopic-cholecystectomy has gained wide acceptance ever since its introduction (15, 16). The wave of enthusiasm unleashed by the pioneers in the job has actually turned into a tidal wave complete with both destructive as well as constructive potentials. There is a risk that minimally invasive surgery will fall into disrepute, unless adequate steps are taken to reassure and properly guide the public (17).

In the present study mean age of patients was 35 years which was much less than what has been reported in available series in the literature (18-20). In present series mean operating time was 61.1 mts, much less than what has been reported in other available series in the literature (20-22). Requirement for post-operative analgesics in the present series on an average was of 3.42 doses per patient. Supe and Bapat (20) did not use any analgesics in their series. Post-operative hospital stay in our series was 3.02 days. Mc Ginn (23) reported post-operative stay of 2 days, whereas Supe and Bapat reported  $3.3 \pm 2.7$  days as post-operative hospital stay in their series. In the present series the time to return to work was 14 days which is little more than what has been reported by other authors (19, 21). Conversion rate in our series was 4% (n=8). The other studies have shown conversion rate ranging from 5.75 to 8% (19-23). The reason for conversion to conventional approach in our study was dense adhesions and obscured calot's triangle anatomy. We placed drain in 196 cases and agreed with the view point of Hawasli (24). We, in our series recommend that routine use of drainage of peritoneal cavity in laparoscopic-cholecystectomy should be practiced till the learning phase is over and the surgeon is confident about the intra-operative anatomy and has done minimum possible dissection. Pre-operative catheterization was not used in our series and we accepted the view point of Liu *et al* (25).

Intra-operative perforation of gall bladder and spillage of bile was seen in 30% of cases (n=60) and spilled stones in 10% (n=20). We retrieved maximum number of stones and mentioned it in the operation note thereby, supporting

the view point of Gerlinzam S (26). In one case re-exploration was done because of excessive biliary drainage. No abnormality was seen. Abdominal cavity was washed with normal saline, sucked clean and closed.

### Conclusion

From our experience of 200 cases of laparoscopic-cholecystectomy performed over a period of 5 years, it can be concluded that outcome of this minimally invasive procedure done in symptomatic gallstones can be considered as widely accepted and safe provided surgeons embarking on the use of laparoscopic-cholecystectomy should show sense of extreme responsibility, should have good knowledge of surgical anatomy and reparative operative technique. We recommend that while separating gall bladder from its bed, dissection should be cautious without hurry and little towards liver side to avoid perforation of gall bladder. Furthermore, one should not hesitate to convert to time tested conventional method if any difficulty or doubt regarding anatomy arises.

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