

# LAPAROSCOPIC CHOLECYSTECTOMY EXPERIENCE OF 100 CASES AT A TEACHING HOSPITAL OF SINDH

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## ABSTRACT

**OBJECTIVE:** To study the complications, conversion rate and hospital stay during the initial experience with the laparoscopic cholecystectomy.

**DESIGN:** A case series.

**SETTING:** Chandka Medical College Hospital, Larkana - Sindh from March 2003 to February 2004.

**METHODS:** Total 100 patients suffering from symptomatic gallstone disease were admitted for laparoscopic cholecystectomy.

**RESULTS:** Out of 100 laparoscopic cholecystectomies performed, 85 (85%) patients were females and 15 (15%) males. Age range was 25 to 70 years. Only 8 (8%) patients were converted to open surgery. Mean operative time was 60 minutes. Post-operative hospital stay was 24 to 48 hours for uncomplicated cases. Post-operative complications included biliary leakage 3% minor and 1% major, duodenal perforation 1% and port site infection 8%.

**CONCLUSION:** Laparoscopic cholecystectomy is the ideal procedure for gallstone disease. However, the complications and conversion rate can be minimized by the appropriate training and experience.

**KEY WORDS:** Laparoscopy. Cholecystectomy. Complication. Conversion. Hospital.

## INTRODUCTION

Since the beginning of 20<sup>th</sup> century, laparoscopy was promoted as valuable adjunctive to diagnose the diseases of abdominal pathologies. But, the laparoscopy only became popular after the advent of video laparoscope. First laparoscopic cholecystectomy was performed by Dr. Philippe Mouret in 1987 in Lyon, France<sup>1</sup>. In 1990, first laparoscopic hernia repair was performed, while in 1991, the laparoscopic colectomy, exploration of common bile duct (CBD), adrenalectomy and oesophagectomy were done<sup>2</sup>. The laparoscopic pancreatic resection was done in 1993<sup>3</sup>.

In Pakistan, laparoscopic surgery is being done in several public and private hospitals particularly in large cities and teaching institutions. But, in peripheral teaching institutes of Sindh like Chandka Medical College, this approach was started in March 2003.

This newer operative approach for the treatment of gallstone is globally accepted. Thus, the introduction of laparoscope has revolutionized the surgical approach to many intra-abdominal pathologies. In this paper, we present our initial experience with this technique.

## PATIENTS AND METHODS

Chandka Medical College Hospital, Larkana is a 1,200 bedded peripheral teaching hospital of Sindh, catering patients from lower Punjab, Balouchistan and upper Sindh. All 100 patients with gallstone disease were

hospitalized through outpatients department.

Detailed history, clinical examination and investigations such as CBC, ESR, Blood Sugar, Blood Urea, Serum Creatinine, Liver Function Tests, HbsAg, HCV antibody, Chest X-ray, ultrasound of upper abdomen especially hepatobiliary system including size of CBD, ECG and cardiac assessment were done. All the patients of gallstone were included except having acute cholecystitis, choledocholithiasis and obstructive jaundice.

Prior to operation an informed consent from all the patients was taken, explaining the risk of conversion to open operation. Patients were kept nil per orally overnight. All the patients were routinely catheterized in the operation theater. Prophylactic antibiotic (Injection Cefotaxime 1G I/V) was administered before induction of anaesthesia, 2<sup>nd</sup> dose at the end of procedure and 3<sup>rd</sup> doze after 12 hours in the ward.

Diclofenic suppository of 100mg was introduced into the rectum after the induction of anaesthesia. 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, one of 10mm at epigastrium and two of 5mm, each on right side of abdomen. Then, further dissection was carried out i.e. identification of cystic duct and artery which were clipped with Liga clip and 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. (Figures I - IV)

**FIGURE I: CYSTIC DUCT AND ARTERY**



**FIGURE II: LIGA CLIPS APPLIED TO CYSTIC DUCT AND ARTERY**



**FIGURE III: GALL BLADDER IS BEING SEPARATED FROM LIVER BED WITH DIATHERMY**



**FIGURE IV: GALL BLADDER IS REMOVED AND PLACED IN RUBBER BAG**



**RESULTS**

Among 100 cases of laparoscopic cholecystectomy, 85 were females and 15 males with male female ratio of 1:5.6. The age range of patients was 25-70 years with a mean of 42 years. The minimum operative time was 30 minutes while maximum 120 minutes and mean was 60 minutes. Eight patients were converted to open surgery because 4 patients had multiple intra-abdominal adhesions due to previous surgery, 2 patients' anatomy was not clear at Calot's triangle, 1 patient had situs inversus and 1 had bleeding from cystic artery. The post-operative hospital stay was 24-48 hours for uncomplicated cases, while 5 to 6 days for complicated cases like having injury to common bile duct and duodenal perforation. The post-operative complications were injury to CBD in 1 patient (1%) and injury to duodenum in 1 patient (1%); both required 2<sup>nd</sup> surgical intervention. Port-site infection was observed in 8 patients (8%).

**TABLE I: POST-OPERATIVE COMPLICATIONS**

Complication	Number of patients (%)
<b>Biliary leakage</b>	
Minor	3(3%)
Major	1(1%)
<b>Duodenal perforation</b>	1(1%)
<b>Port site infection</b>	8(8%)
<b>Prolonged post-operative abdominal pain</b>	5(5%)

## DISCUSSION

The gallstone disease is more common in females than males. The advantages of laparoscopic cholecystectomy are well-established and include minimum hospital stay, less pain, minimum scar and less danger of incision hernia. During dissection of cystic artery and cystic duct, it is easier and safe than conventional method mostly in obese patients. In this study, majority of cases belonged to female sex (85%). This figure is slightly higher than the figures of Jitea N et al<sup>4</sup> (83% females) and Panpimanmas et al<sup>5</sup> (70.6% females). Age of patients in this series (mean age of 42 years) is also less than reported by Jitea N et al<sup>4</sup> (51.2 years) and comparable to the study of Zuberi et al<sup>6</sup> (42.5 years). The operative time was 30 minutes to 120 minutes and mean time was 60 minutes which is also less when compared to the findings of Karayiannakis AJ et al<sup>7</sup> (66.4 minutes) and Kakizoe S et al<sup>8</sup> (120 minutes). The conversion rate was 8% which is consistent with the finding of Cheema S et al<sup>9</sup> (8.3%), less than the study of Ferrozzi L et al<sup>10</sup> (21%) and greater than Uchiyama K et al<sup>11</sup> (6.4%). It is also less than the study of Knight JS et al<sup>12</sup> (12%) and Soomro AH et al<sup>13</sup>. The reasons for conversion in this study were multiple intra-abdominal adhesions, unclear anatomy at Calot's triangle, situs inversus and bleeding from cystic artery. The post-operative hospital stay of uncomplicated cases was 24-48 hours while in complicated cases, it was 5 to 6 days (average 2.2 days). This shows shorter hospital stay than the findings of Jitea N et al<sup>4</sup> (3.8 days) and Hazzan D et al<sup>14</sup> (3.4 days). In this study, complications noted were biliary leakage, duodenal perforation, port site infection and prolonged post-operative abdominal pain. Minor biliary leakage was seen in 3% cases which is higher than the study of Mahatharadol V et al<sup>15</sup> (0.59%) and Shamiyeh A et al<sup>16</sup> (0.8%). Meanwhile, major leak was observed in one case due to injury to CBD which is also comparable to the study of Mahatharadol V et al<sup>15</sup> (0.59%) and Shamiyeh A et al<sup>16</sup> (0.8%). Duodenal perforation was observed in 1% cases which is higher when compared to the findings of Singh R et al<sup>17</sup> (0.17%). Port site infection was present in 10% patients which is higher than the findings of Sarker S et al<sup>18</sup> (4.5%), Ji W et al<sup>19</sup>, Colizza S et al<sup>20</sup> (6%). The infection is higher in our initial cases which may be due to improper sterilization of instruments which was improved later resulting in reduced infections. Prolonged post-operative abdominal pain observed in 5% cases was also slightly more than the figure of Watt-Watson J et al<sup>21</sup> (4%).

However, it is concluded from the above discussion that laparoscopic cholecystectomy is the established procedure for the treatment of gall stone disease and

the experienced and well-trained team can minimize the post-operative complications and the conversion rate.

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## LAPAROSCOPIC CHOLECYSTECTOMY

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