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Research Article

**CAUSES OF CONVERSION OF LAPROSCOPIC
CHOLECYSTECTOMY TO OPEN CHOLECYSTECTOMY**¹Dr. Faraz Ahmed, ²Dr. Farah Ashraf, ³Dr. Saqib Nisar¹Mayo Hospital, Lahore²Lahore General Hospital, Lahore³Sheikh Zayed Hospital, Lahore**Abstract:**

Objective: To evaluate the possible risk factors responsible for the conversion of laparoscopic surgery to open cholecystectomy.

Study Design: Descriptive case series.

Location and Duration: In the West Surgical Ward of Mayo Hospital Lahore for one year duration from July 2017 to July 2018.

Methodology: We retrospectively evaluated the medical records of 305 patients with gallbladder disease. We studied all data of patients treated for inflammatory gallbladder disease to estimate the risk factors that force a surgeon to convert laparoscopy into open cholecystectomy.

Results: Of the 305 patients undergoing laparoscopic cholecystectomy, 20 (6.5%) required conversion to open surgery. The most common cause of transformation was intense adhesion in 10 cases, Uncontrolled bleeding in 3 cases; 2 of them are one of the cystic artery and gallbladder bed. Injury to biliary duct in 2 cases, intense and not separate able adherence in 2 cases, inability to identify the anatomy in 3 cases, in 1 case cholecystoduodenal fistula and gallbladder in 3 cases were fall into the peritoneal cavity.

Conclusion: The conversion rate of the surgeon community has been decreasing due to the experience gained by the surgeon community over the last three decades.

Key Words: Laparoscopy, Cholecystectomy, Minimum Access Surgery.

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INTRODUCTION:

Langenbach performed first cholecystectomy and after that almost nothing changed occur in the operating methods since 1892, gallstones have been known to affect humanity throughout the ages, and the most preferred treatment was the removal of the gallbladder with open cholecystectomy. However, progress in stable medicine and the introduction of minimally invasive surgical methods in the novel have contributed to a change in the treatment of cholelithiasis standards. In 1985, Erich Muhe performed the first laparoscopic cholecystectomy. Two years later, this method was developed by Philip Mauret. Today, laparoscopy is the gold standard for the treatment of cholelithiasis. The main advantage of such a procedure is to maintain the continuity of the abdominal wall, thereby reducing tissue damage. It shortens the length of hospitalization and enables the patient to return to full-life activity rapidly. An additional advantage is the reduction of postoperative pain and a better cosmetic effect. Many of the above criteria, such as obesity, acute inflammation and adhesion, are no longer the absolute contraindications, and the number of disadvantages is less and less. In the case of laparoscopic cholecystectomy difficulties, the only way to solve the problem and save the patient from possible complications and death threats is a change in traditional open cholecystectomy.

MATERIALS AND METHODS:

This Descriptive case series was held in the West Surgical Ward of Mayo Hospital Lahore for one year duration from July 2017 to July 2018. Medical records of 305 clinically diagnosed patients with gallbladder disease were recovered. There were 61 male (20%) and 244 female (80%) between 16 and 76 years of age (40.2 years) was the mean age. It was diagnosed on the basis of gallbladder disease, clinical history, clinical examination and ultrasound. All patients had routine preoperative basic tests; including liver function tests (serum alanine transaminase, aspartate transaminase, alkaline phosphatase, gamma glutamyl transpeptidase and bilirubin). The indications for surgery included cholecystitis in 270 patients (88.5%), chronic cholecystitis acalculus (cholecystoses) 3 (1%), and acute cholecystitis in 32 patients (10.5%). Laparoscopic cholecystectomy was performed.

Despite the surgeon's experience team and continued improvement, all patients with LC have already been reported to have the possibility of converting the OC procedure. 273 cases of cholecystitis were operated in patients with acute cholecystitis after stabilization with conservative therapy, and in the first operation

lists, which were re-admitted with surgery for 6 weeks. In our series, 28 patients previously underwent abdominal surgery and appendicitis and umbilical hernia repair were performed by cesarean section. Prophylactic antibiotics (third generation cephalosporins) were administered to all patients before induction and nasogastric tube was inserted in all patients perioperatively. Laparoscopic cholecystectomy was performed using four ports along with CO₂ gas in the umbilicus to create pneumoperitoneum. Exposures of Calot triangle and gallbladder dissection with curved hooks were performed using monopolar current coagulation. cholangiography (3.94%) was only performed in 12 cases intraoperatively. Postoperative hospitalization period ranged from 1 to 20 days (average 1.43 days). Our policy aimed at discharging patients on the 1st postoperative day. In 215 patients (10.5%), 65 patients (21.3%) were discharged 2 days later. The remaining 25 (8.2%) had a leakage bile and were discharged for 20 days to the hospital except one patient, on the third day or immediately after the operation.

RESULTS:

From 305 subjects laparoscopic Cholecystectomy was done in 20 (6.5%) were studied about conversion to open type. The most common cause of transformation is intense adherence to previous operations in 10 cases. If the bladder is contracted- the inability to define anatomically due to inflammation transformed into open type in 3 patients. In 3 cases of laparoscopic surgery the uncontrollable bleeding, 2 of them occurred in the bed of the cystic artery and 1 in the gallbladder. Bile duct injury in 2 cases, one of them occurred due to the use of diathermy close to the tubing, and no other separate adhesions occurred. In one case, the gallbladder fell into the abdominal cavity and thus could not be easily displayed and then from an incision of 5 cm in an extended cross transverse direction, recovered lost gallbladder. In the latter 1 case only, a cholecystoduodenal fistula was observed and was forced to open surgery. The history of abnormal liver function: age, concomitant disease, pancreatitis and preoperative test results: a significant relationship was found between conversion and any possibility of the following. The major determinants of conversion to open surgery were male sex, previous abdominal surgery, acute cholecystitis and jaundice, a history of obesity, suspicious stones in the biliary tract, uncontrolled bleeding, and a thickened gallbladder wall. There was no death. The conversions were greater in the first 150 cases, compared to the next 150, between 11 and 7.

Table I. Conversion rate in World Literature

Authors	Year	Country	Total Patients	No.	%
Tariq S. Mufti et al ²¹	2013	Pakistan	60	3	5
Mehmet K et al ²²	2014	Turkey	300	23	7.7
Ishiazaki Y et al ¹⁵	2014	U.K	500	32	6.4
Nachnani J et al ²⁵	2013	India	105	12	11.4
Wael F Hasaniah et al ²⁴	2015	Kuwait	2750	150	3.8
Bakos E et al ⁵	2016	Slovakia	1535	89	5.7
Kama N A et al ⁶	2016	Turkey	1000	48	4.8
Ciesieczy B et al ²³	2012	Poland	765	106	13.8
Tarcoveanu E et al ¹⁰	2011	France	900	144	16
Current Study	2018	Pakistan	305	20	6.5

DISCUSSION:

Since then, the first laparoscopic cholecystectomy performed in 1987 is a continuous adoption of this procedure and a downward trend for open cholecystectomy. In developed countries, less than 20% of total cholecystectomies are performed using an open method. In Pakistan and other developing countries, the procedure is still widespread due to lack of skills and apparatus. Morbid obesity was considered a contraindication and could contribute to this change.

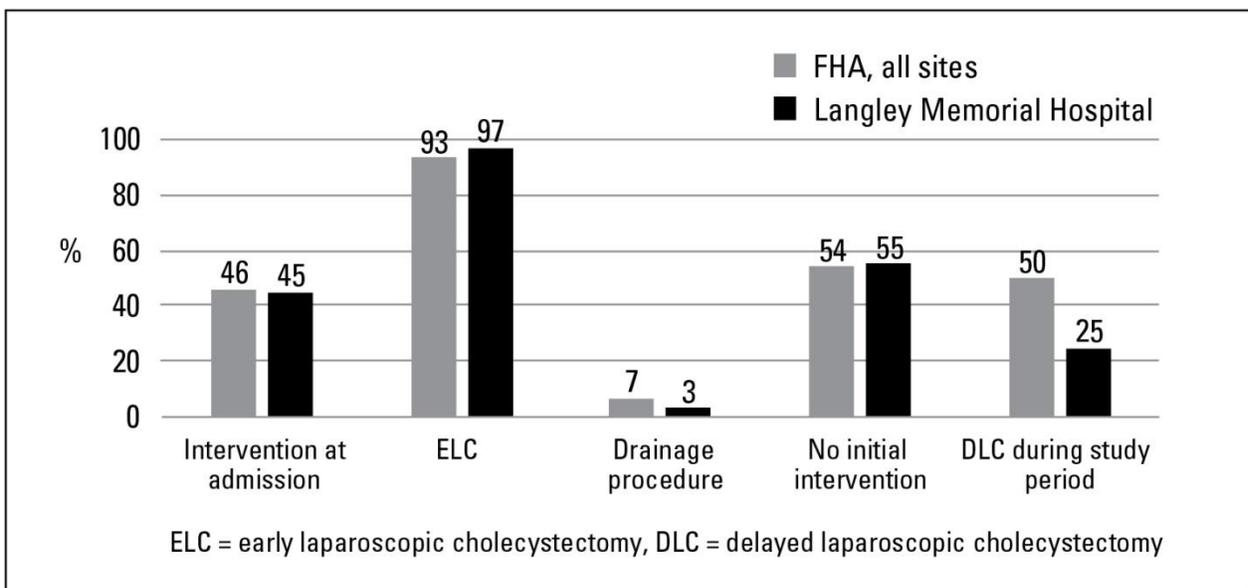


Figure 2. Management of acute cholecystitis at all Fraser Health Authority (FHA) sites and at Langley Memorial Hospital before implementation of educational intervention supporting early cholecystectomy.

We had 6 (2.01%) obese patients in this study, but we did not have any difficulty in using them. Previous abdominal surgery has been described as a cause of transformation in all studies with its contribution to adhesions. There were 87 patients (87.5%) with adhesions. Adhesions can be separated by laparoscopic success in 77 (25.2%) patients with blunt dissection and diathermy, irrigation and suction

required in 10 patients forced to perform transformation. Cystic artery bleeding has been reported causes conversion in five (1.65%) cases in this study. While bleeding was controlled effectively in 3 (1.00%) cases, 2 (0.65%) cases were converted. In this study, significant hemorrhage occurred in 3 (4.55%) patients in the liver bed. This bleeding was treated with compression of the gallbladder, sponge

and / or spongy stone in 2 (2.84%) cases. But in 1 patient, the bleeding in the liver bed could not be controlled and the procedure had to be open cholecystectomy. In other studies, uncontrolled bleeding was also reported as the cause of control. Many surgeons reported stone effusion as a cause of transformation in this study, and stone spills occurred in 15 (4.9%) cases. In these patients, most stones were saline and finger-stopping of the surgical glove was followed by irrigation with suction. In all these cases the drainage tubes are placed. Your patience and meticulous search have always been satisfactory. Device / equipment failure is also defined as a reason for conversion. We were able to replace the defective or defective instruments with a new one and there is no need for a conversion to this problem. We observed lesions in the common bile ducts in 1 (0.65%) patients requiring conversion.

CONCLUSION:

Over time, the transformation rate is reduced due to the experience of the surgical community over the past three decades and the progress in the tools used in laparoscopic surgery.

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