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Original Research Article

Experience of Laparoscopic Cholecystectomy at Lumbini Medical College Teaching Hospital

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ABSTRACT:

Introduction: The difficult gallbladder is the most common difficult laparoscopy being performed by general surgeons all over the world and the potential one that places the patient at significant risk. The present study aimed to study all the cases of laparoscopic cholecystectomy conducted in current setup at Lumbini Medical College and Teaching Hospital, to compare the results with the published literature and also analyze the complications and ways to decrease the incidence of conversion to open procedure. **Methods**: Five hundred twenty five patients age 10-90 years, male:female ratio of 1:3.86 with body weight 45-65 kilogram, who had undergone laparoscopic cholecystectomy for symptomatic cholelithiasis without choledocholithiasis from April 2011 to April 2013 were studied. **Results**: All the laparoscopic cholecystectomy (LC) were without major complications. Only nineteen out of five hundred twenty-five (3.6%) required conversion to open cholecystectomy (OC). Reasons for conversion included: dense omental or visceral adhesions; two (0.38%), unclear anatomy; 16 (3.04%), common bile duct injury; one (0.19%). There were 20 cases of shrunken gallbladder suspicious of malignancy but didn't required conversion. **Conclusion**: Laparoscopic cholecystectomy is the preferred method in our setup even in difficult cases.

Keywords: cholecystitis • cholelithiasis • conversion • laparoscopic cholecystectomy

INTRODUCTION:

Diseases of biliary tract constitute a major portion of digestive tract disorder. Among these gall stone disease is the most common biliary pathology.[1] Carl-Langenbuch performed first ever cholecystectomy on a 42 years old man in 15 July 1882, Berlin. Laparoscopic cholecystectomy (LC) first of all performed by Philipe Moret in Lyon, France in March 1987 has in fact revolutionized the treatment of cholelithasis.[1] After National Institutes of Health Consensus Conference in 1993, LC has replaced open cholecystectomy as the gold standard in the treatment of patients with symptomatic cholelithiasis.[2] The outcome of LC is influenced greatly by the training, experience, skill and judgment of the surgeon performing the procedure.[3] The difficult gallbladder is the most common difficult LC. This difficult LC has potential of significant risk for patient. A number of researches have emphasized promising role of LC.[4-6] In the beginning, patients like acute cholecystitis, empyema, gangrenous gallbladder, cirrhotic liver, and Mirizzi syndrome were contraindicated for LC because of high risk of complications and conversion rate.[5,6] After years of practice surgeons have gained expertise to manage difficult gallbladder. We thought it imperative to reassess the feasibility of LC in these (complicated cases) in terms of conversion rate. The present study aimed to study all the cases of laparoscopic cholecystectomy conducted in current setup at Lumbini Medical College and Teaching Hospital, to compare the results with the published literature and also analyze the complications and ways to decrease

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the incidence of conversion to open procedure.

METHODS:

A retrospective study was conducted to identify the results of all the LC performed and also the rate of conversion from LC to OC at our tertiary care hospital. All patients who underwent LC from April 2011 to April 2013 were identified from the medical records maintained in the Department of Surgery. Five hundred twenty five patients age 10-90 years, male:female ratio of 1:3.86 with body weight 45-65 kilogram, who had underwent laparoscopic cholecystectomy for symptomatic cholelithiasis without choledocholithiasis from April 2011 to April 2013 were studied.

Patients who were converted to OC were studied for the reason of conversion. Cases with incomplete records with respect to anthropometry, laboratory investigations, and ultrasound findings were excluded. Standard Laparoscopic cholecystectomy procedure was performed. Adhesions of gall bladder (GB) were separated by blunt, sharp and electro dissection and by use of suction cannula. Distended GBs were decompressed by suction and aspiration. Cystic Duct and Cystic Artery identified, ligated and divided with endoclips. Wide Cystic Ducts (not clipped by 10 mm clips) were suture ligated and divided. GBs were dissected from GB fossa by use of hook/spatula/scissors. Hemostasis was maintained by using monopolar cautery. GB extracted through epigastric port or umbilical port. GB fossa re-examined and suction dried. Drains were kept through 5 mm port at anterior axillary line. Port closure was used for port site bleeding. Skin closure was done with skin stapler or suture. The camera was used of striker and the monitor as well. Two surgeons performed all the operation who had experience of more than 100 LC. All GB specimen were sent routinely for histopathology confirmation.

RESULTS:

Nineteen (3.6%) patients out of 525 patients during the study period had to be converted to open cholecystectomy owing to various reasons as enumerated in Table 1.

Two out of 50 acute cholecystitis and 16 out of 280 chronic cholecystitis patients were converted to OC. None of the cases had major wound infections. Fifty cases had minor port site discharge which was managed with regular dressings. All the 110 cases where drain was placed was removed on 1st and 2nd post-operative days. All the patient who underwent LC were discharged on the 3rd post-operative day and those who required conversion were discharged on 7th post-operative days.

Table 1: Causes of conversion from laparoscopic to open cholecystectomy (N=6)

	Reasons for conversion	N (%)
1	Dense omental or visceral adhesions	2 (0.38%)
2	Uncontrollable bleeding from liver bed	0
3	Unclear anatomy	16 (3.04%)
4	Common bile duct injury	1 (0.19%)

DISCUSSION:

Initially, the complication rate with LC was high but as the experience has grown, it has reached a remarkably low level at 2-6%.[7,8] Complications are same but is more severe when it occurs in LC.[9] Since 1990 many surgeons have attempted LC with reasonable success in difficult cases.[4-6,9,10] Their results indicated that extensive experience with both open and laparoscopic biliary tract surgery is the most important ingredient of a successful outcome in the setting of difficult cases.

The clinical profile of a patient can predict a difficult gallbladder surgery.[9] Based on our experience we feel that even in a patient anticipated to have a difficult gallbladder one can complete the procedure laparoscopically. Hence our policy has been to take up all the cases fit to undergo laparoscopy for LC. Conversion to open surgery is not visualized as a complication, rather a matter of sound importance. In cases where we faced difficulty, we took longer time for dissection of Calot's triangle. In some cases, we had to aspirate the contents of gall bladder to make the dissection easier. Four cases we had to use suture ligature instead of using clips.

In our study the overall conversion rate was 3.6% of the total LC which is in accordance with the literature 2-6%.[11] Dense adhesions at Calot's triangle was the most common reason for conversion to open surgery in our series. One conversion was due to common bile duct injury, identified and was managed intraoperatively in the same sitting. One

patient having minimal bile leak postoperatively was managed conservatively with wait and watch policy, the leak ceased spontaneously within two days. Since the rate of conversion in patients with acutely inflamed gallbladder was 2 (0.38%), we recommend LC in acute cholecystitis where feasible as has been reported in the literature.[12] We still believe from our experience that within 72 hours of symptoms the tissue planes are edematous and inflamed but are easier to dissect, having no adhesions at all.12 We took up 50 patients for LC even after 72 hrs and complete them without conversion even though it was difficult and took longer (90 versus 50 min) $p>0.05$.

CONCLUSIONS:

Good laparoscopic skill, adequate experience and good equipment all are prerequisites for safe laparoscopic cholecystectomy and low conversion rate. Laparoscopic cholecystectomy is the preferred method in our setup which is comparable to other literatures.

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