

ORIGINAL ARTICLE

Laparoscopic Cholecystectomy: An Initial Clinical Experience at Faridpur District

PK SAHA¹, Ratna Rani ROY², Nukul SARKAR³, Jahangir ALAM⁴

¹Associate Professor, Department of Surgery, Shaheed Suhrawady Medical College, Dhaka, Bangladesh; ²Associate Professor, Department of Anatomy, Dr. Sirajul Islam Medical College, Dhaka, Bangladesh; ³Medical Officer, Shishu Hospital, Faridpur, Bangladesh; ⁴Associate Professor, Department of Anesthesiology, SK Sayera Khatun Medical College, Gopalganj, Bangladesh

[Received: 1 July 2014; Reviewed: 19 September 2014; Accepted: 7 December 2014; Published: 1 June 2015]

Abstract

Background: Laparoscopic cholecystectomy quickly emerged as an alternative to open cholecystectomy. However its safety, efficacy, and morbidity have yet to be fully evaluated. **Objective:** The purpose of the present study was to determine the efficacy and safety of laparoscopic cholecystectomy Procedure in the removal of gall bladder stones at Faridpur district-one of the remote district of Bangladesh. **Methodology:** A prospective, nonrandomized, open label Consecutive study was carried out at Faridpur district using laparoscopic cholecystectomy (LC) procedure for the symptomatic treatment of Gall bladder stones. For this purpose a total number of 145 patients having conclusively diagnosed as gall bladder stones were enrolled. LC procedure was performed by North American technique-a well established and standard procedure described earlier for the purpose. The key variables studied were average operating room time, condition of the gall bladder, the presence or absence of stones, the character of stones, post-operative complicates and duration of hospital stay. **Result:** The study revealed that among 145 patients 83.4% were female with an average age of 40.3 years. The average operating time required was 130 minutes. Gall bladder was thickened but was free from adhesion in 96.5% cases and stones' only 3.45% patients needed open method due to fibrosis and adhesion of the gall bladder with omentum and gut. The duration of hospital or clinic stay following LC was 3.5 days. Evidence of infection like fever, pain etc. was seen only in 2.75% cases. Bleeding was present in 2.06% cases. This was corrected after blood transfusion. No injury to the common bile duct or any of the bile duct or any of the blood vessels was observed. Similarly no evidence of malignancy was seen in any of the gall bladder removed. **Conclusion:** The present study concludes that laparoscopic cholecystectomy is a safe, minimal invasive, cost-effective and safe procedure for the symptomatic treatment of gall bladder stones. [*Journal of Current and Advance Medical Research, 2015;2(2):30-33*]

Keywords: Laparoscopic cholecystectomy; cholecystitis; abdominal surgery

Corresponding author: Dr. PK Saha, Associate Professor, Department of Surgery, Shaheed Suhrawady Medical College, Dhaka, Bangladesh; Email: pk_saha2@yahoo.com; Cell no.: +8801711153692

Cited as: Saha PK, Roy RR, Sarkar N, Alam J. Laparoscopic Cholecystectomy: An Initial Clinical Experience at Faridpur District. *Journal of Current and Advance Medical Research, 2015;2(2):30-33*

Conflict of Interest: Authors have declared no conflict of interest.

Contributions to authors: PKS, NS, JA have contributed in protocol preparation to manuscript writing. PKS & RRR have revised the manuscript.

Introduction

Laparoscopic cholecystectomy (LC) a surgical technique was first performed in France in 1987. Following this, Reddick popularized this procedure in USA in 1989¹. Subsequently, the procedure has gained wide spread acceptance among the surgeons all over the world. This procedure is now considered the gold standard treatment of symptomatic gall stones² and is the most common surgical operation performed laparoscopically all over the world³. With the advent of this procedure, the management of billiary stone diseases has in fact, dramatically changed now to a true outpatient procedure with negligible morbidity⁴.

LC Procedure has been found safe, minimum invasive, painless, cost-effective and virtually free from complications. Patients require staying in the hospital or clinic from overnight to 48 hours saving huge amount of money for hospital bills. Moreover, after LC Procedure, patients can return to normal life within a period of 5-7 days without any restrictions in movement activities like lifting and exercising. The purpose of the present study was to determine the efficacy and safety of LC Procedure in the removal of gall bladder stones at Faridpur district-one of the remote district of Bangladesh.

Methodology

This was a prospective, non-randomized open-label, consecutive study carried-out. Over a period of 3 years form 2002-2004. The study was carried-out at secondary level of health care setting at Faridpur district. For this purpose, a total number of 145 patients having conclusively diagnosed as gall bladder diseases with stones were enrolled. All these patients were selected pre-operatively for LC surgery on the basis of medical history, clinical findings and laboratory diagnostic evidence (including ultrasonography) of gall bladder diseases like chronic cholecystitis, cholelithiasis etc. Patients who had ischaemic heart diseases, uncontrolled hypertension or diabetes were not included in the study. Similarly, patients who had suggestive history of acute cholecystitis wee also excluded from the study. Laparoscopic cholecystectomy was performed under GA using North American technique well-established and standard technique for the purpose described elsewhere earlier. Before, operation informed consent in writing was taken from each patient on ethical ground. All the patients were on antibiotic prophylaxis before operation. The out-come variables were demographic variables such as age, sex, socio-economic status, occupation and LC related variables were average

operating room time, condition of the gall bladder, presence of single or multiple stones, post-operative complications like nausea, vomiting, evidence of wound infection, discharge or oozing from the wound etc., duration of hospital stay and wound healing time etc.

Results

Among 145 patients, the mean age of the patients was 40.37 ± 10.75 years and the ranges were 14-75 years respectively. Among the sexes, 24(16.55%) were male and the rest 121(83.45%) were female respectively and the male: female ratio was 1:6. Most of these patients were from middle class socio-economic status and majority, of the female were house-wives (Table 1).

Table 1: Socio-demographic Characteristics

Variables	Mean±SD (Range)
Age	40.37±10.75 (14-75)
Sex	
• Male	24(16.55%)
• Female	121(83.45%)
Socioeconomic Status	
Lower Class	30(20.7%)
Middle Class	101(69.6%)
Upper Class	14(9.7%)

The average operating room time was 130 minutes. Gall-bladder was thickened but was free from adhesion in 140(96.5%) cases and LC was performed in these patients. The skin was closed using skin stapler and the stapler pin was removed on 5th to 6th days of the operation. The gall bladder of rest of the 5(3.4%) patients were also thickened, and grossly fibrosed and adhered to omentum or stomach or intestine etc. And these patients required open method is conventional cholecystectomy which was done by the same surgeon who conducted LC for removal of the gall bladder.

Table 2: Outcome of the study

Variables	Present	Absent
Infection	4(2.8%)	141(97.2%)
PONV	25 (17.2%)	120(82.8%)
Injury CBD	0(0.0%)	145(100.0%)
Hospital Stay	3.5 days (Average)	

PONV= post-operative nausea and vomiting

Stones were present in 141(97.24%) patient's gall bladder and only in 3(2.06%) cases stone were not found. Billiary sludge was found in 1(0.68%) and

empyema was seen in 1(0.68%) patients. Multiple stones were seen in 135 (93.10%) cases and single stone found only in 5 (3.44%) cases. The average duration of hospital stay was 3.5 days in patients who had LC procedure. On the other hand, patients who needed open cholecystectomy, the average duration of hospital stay was 10 days. The average wound healing time was 5 days with a range of 4-6 days. Evidence of infection like fever, pain was seen only in 4(2.75%) cases and rest of the patients (97.2%) was normal. Post-operative nausea and vomiting was present only in 25 (17.24%) cases and most of the patients needed analgesics for the relief of pain and parenteral ketorolac was used for the purpose. Herniation was not seen in any of LC patients. Similarly, there were no injuries to blood vessels or CBD during the LC procedure. No evidence of malignancy was in any of the study population. There were 15 cases of gall stones with cirrhosis of liver.

Discussion

It is true that among all operations laparoscopic cholecystectomy has been more profoundly performed by the advent of laparoscopy. Laparoscopic cholecystectomy has rapidly become the procedure of choice for routine gallbladder removal and is currently the most commonly performed major abdominal procedure in Western countries⁹. A National Institutes of Health consensus statement in 1992 stated that laparoscopic cholecystectomy provides a safe and effective treatment for most patients with symptomatic gallstones and has become the treatment of choice for many patients¹⁰. This procedure has more or less ended attempts at noninvasive management of gallstones. The initial driving force behind the rapid development of laparoscopic cholecystectomy was patient demand. Prospective randomized trials were late and largely irrelevant because advantages were clear. Hence, laparoscopic cholecystectomy was introduced and gained acceptance not through organized and carefully conceived clinical trials but through acclamation.

Laparoscopic cholecystectomy decreases postoperative pain, decreases the need for postoperative analgesia, shortens the hospital stay from 1 week to less than 24 hours, and returns the patient to full activity within 1 week compared with 1 month after open cholecystectomy¹¹⁻¹².

Laparoscopic cholecystectomy also provides improved cosmesis and improved patient satisfaction as compared with open cholecystectomy. Although

direct operating room and recovery room costs are higher for laparoscopic cholecystectomy, the shortened length of hospital stay leads to a net savings. More rapid return to normal activity may lead to indirect cost savings¹³. Not all such studies have demonstrated a cost savings, however. In fact, with the higher rate of cholecystectomy in the laparoscopic era, the costs in the United States of treating gallstone disease may actually have increased¹⁰. Trials have shown that laparoscopic cholecystectomy patients in outpatient settings and those in inpatient settings recover equally well, indicating that a greater proportion of patients should be offered the outpatient modality¹⁴.

Laparoscopic cholecystectomy has received nearly universal acceptance and is currently considered the criterion standard for the treatment of symptomatic cholelithiasis¹⁵. Many centers have special "short-stay" units or "23-hour admissions" for postoperative observation following this procedure¹⁶. The advantages of LC over open method have been well documented. Tiny incisions, less post-operative complications, short duration of operation time as well as hospital stay along with cost-effectiveness and early return to normal activity are the major advantages of LC procedure¹⁷. This initial clinical hand on experience at Faridpur district also supports the above stated facts. The study reveals that with trained personnel, LC procedure can easily be performed even at remote health care setting like Faridpur district without any compromise to the quality of care. The low rate of post-operative complications and morbidity of LC as observed in the present study is comparable to others⁷⁻⁹. Because both surgeons and patients prefer LC to open cholecystectomy and because this procedure is cost-effective, cosmetically superior and produces for less morbidity, access to LC is thus, important and can be considered as the choice of first line treatment.

The present study provides and evidence based findings and thus' recommends that where technical and skill man power is available' LC procedure can easily be adopted without any fear.

Conclusion

The present study concludes that laparoscopic cholecystectomy is a safe, minimal invasive, cost-effective and safe procedure for the symptomatic treatment of gall bladder stones. The procedure can easily be performed even at remote healthcare setting with trained personnel without any compromise to the quality of healthcare.

Reference

1. Reddick EJ. Laparoscopic cholecystectomy in free standing out patient Centres J Laparoendosc surg 1992;2:65-67
2. Braudon JC, Yelez Sk Teplic Sk etal. Laparoscopic cholecystectomy: evolution, early results and impact on non-surgical gall stone therapies. Amer J Roentgen 1991;157:235,239
3. Cuschieri A, Laparoscopic Cholecystectomy. JR coll surg Edinb 1999;44 187 -192
4. Papic, Catarci M, D' Ambrosio L etal. Timing of Cholecystectomy for acute calculous Cholecystitis: a meta-analysis. Amer J gastroenterol 2004;99:147
5. Legorreta AP Silber JH, Costantion G N etal. Increased Cholecystectomy rate after the introduction of Laparoscopic Cholecystectomy. JAMA 1993;270:1429-1432
6. Vander velpen GC, Shimi SM, Cuschieri A. Out-come after cholecystectomy for symptomatic gall stone diseases and effect of surgical access. Laparoscopic V open approach Gut 1993; 34 1448-1451
7. Bass E P, Pitt H A, Lillemoe KD. Cost-effectiveness of laparoscopic Cholecystectomy vs open Cholecystectomy. Am J surg 1993;165:466-471
8. NIH Consensus Conference. Gall Stones and laparoscopic Cholecystectomy. JAMA 1993;269:1018-1024
9. Litwin DE, Cahan MA. Laparoscopic cholecystectomy. Surg Clin North Am Dec 2008;88(6):1295-313
10. National Institutes of Health (NIH). Gallstones and Laparoscopic Cholecystectomy. NIH Consensus Statement. NIH; September 14-16, 1992. 10(3):1-28
11. Calland JF, Tanaka K, Foley E, Bovbjerg VE, Markey DW, Blome S, et al. Outpatient laparoscopic cholecystectomy: patient outcomes after implementation of a clinical pathway. Ann Surg 2001;233(5):704-15
12. Shea JA, Berlin JA, Bachwich DR, Staroscik RN, Malet PF, McGuckin M. Indications for and outcomes of cholecystectomy: a comparison of the pre and post-laparoscopic eras. Ann Surg. Mar 1998;227(3):343-50
13. Nealon WH, Bawduniak J, Walser EM. Appropriate timing of cholecystectomy in patients who present with moderate to severe gallstone-associated acute pancreatitis with peripancreatic fluid collections. Ann Surg. 2004;239(6):741-9
14. Lillemoe KD, Lin JW, Talamini MA, Yeo CJ, Snyder DS, Parker SD. Laparoscopic cholecystectomy as a "true" outpatient procedure: initial experience in 130 consecutive patients. J Gastrointest Surg 1999;3(1):44-9
15. McSherry CK. Cholecystectomy: the gold standard. Am J Surg 1989;158(3):174-8
16. Potts JR 3rd. What are the indications for cholecystectomy? Cleve Clin J Med 1990;57(1):40-7