

LAPAROSCOPIC CHOLECYSTECTOMY: AN EARLY EXPERIENCE AT AYUB TEACHING HOSPITAL ABBOTTABAD

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Background: Laparoscopic Cholecystectomy first introduced in 1987, is becoming more and more popular and now it has become gold standard in symptomatic gallstone disease. The current descriptive study is carried out in Department of General Surgery, Ayub Teaching hospital, Abbottabad to evaluate the result of Laparoscopic Cholecystectomy in symptomatic gallstones disease in our set up with special emphasis on complication rate, morbidity and mortality.

Methods: The data of all patients who underwent Laparoscopic Cholecystectomy from January to December 2007 was entered in standardized proforma and analysed on SPSS 10. **Results:** Out of 60 patients, 51 (85%) were female and 9 (15%) were males; the age range from 17 to 65 years mean age being 40.30 years, majority were in age 30–40 years group. Two (3.3%) patients had bile leak, 1 (1.3%) patient developed port site wound infection 1 (1.3%) patient developed collection in pouch of Morrison and in 1 (1.3%) patient stone were recovered from the epigastric port site wound. There was no bile duct or colonic injuries. The conversion rate was 5%. There was no mortality. **Conclusion:** Laparoscopic cholecystectomy is a safe and effective treatment for gall stone disease and is up to the accepted standard in our set up as compared to national and international data.

Key Words; Laparoscopic Cholecystectomy, morbidity, mortality.

INTRODUCTION

Gallstone disease is a major health problem worldwide particularly in the adult population.¹ The prevalence of gallstones in the United States is around 10% to 15% amongst white males and in Europe around 18.5%.² Although the data from within the country is scanty, but the breakthrough of the admission data from Karachi shows that it is the 3rd commonest cause of admission accounting for 16%³ and 14%.⁴

Cholecystectomy is procedure of choice for symptomatic gallstones. The traditional open cholecystectomy performed for the first time in 1882 by Carl August Langerbach⁵ has been replaced by Laparoscopic Cholecystectomy (LC) which has revolutionized the treatment of gall bladder disease and is now the gold standard for the treatment of gallstones and the commonest operation performed laparoscopically worldwide.^{6,7}

LC is minimally invasive procedure whereby the gallbladder is removed using laparoscopic technique.⁸ It causes less surgical trauma thereby resulting in reduced hospital stay and early resumption to normal activity.⁹

The current research review shows clear benefit of laparoscopic cholecystectomy over open cholecystectomy in terms of intra operative, intra hospital and long term morbidity.^{5,8,10,11}

The current study is planned to compare the morbidity of open cholecystectomy with laparoscopic cholecystectomy in a set up like ours where adequate expertise is in the phase of development.

PATIENTS AND METHODS

This descriptive study was carried out in Surgical Unit 'A' and 'B' of Ayub Teaching Hospital Abbottabad from January 2007 to December 2007 over a period of one year. Patients of either sex, more than 13 years of age who underwent laparoscopic cholecystectomy irrespective of indication were included in the study. The patients who had jaundice, mass or dilated CBD (>10 mm in Diameter) and patients having positive hepatitis B or C virus screening test were excluded. All patients were admitted and necessary preoperative workup including Blood CP, Urea, Sugar, Liver Function Tests and Hepatitis B and C screening was done. Ultrasound abdomen was done in each patient to confirm gallstones and to assess the CBD diameter and was used as a tool for exclusion criteria. Chest X-ray and ECG were done if the patient was above forty.

Standard four-port technique was used. The pneumoperitoneum was created by closed method by using Veress needle.

All the data about patient was recorded on standardized proforma and analysed by SPSS 10.

RESULTS

Out of 60 patients, 51 (85%) were female and 9 (15%) were males giving rise to a female to male ratio of 5.6:1. The age ranged from 17 to 65 years mean age being 40.30 years, majority were in fourth (31.66%) and fifth (25%) decade of life. One (1.7%) patient had diabetes mellitus, 11 (18.3%) had hypertension, 3 (5%) had ischaemic heart disease and 45 (75%) had no co-morbidity for anaesthesia or surgery. Majority of the patients (75%) had multiple

stones, 14 (23.3%) had single stone while 1 (1.7%) had polyp in the Gall Bladder. Adhesions were present in 22 (36.7%) patients. The status of the gall bladder as observed in this study is given in Table-1. Two (3.3%) patients had bile leak, 1 (1.3%) patient developed port site wound infection 1 (1.3%) patient developed collection in pouch of Morrison and in 1 (1.3%) patient stone were recovered from the epigastric port site wound. There was no bile duct or colonic injuries. The conversion rate was 5%. Two patients were converted due to fibrous adhesions and one was converted due to dilated CBD. The operative time is given in Table-2. Drain was placed in Morrison's pouch in 26 (43.7%) patients. The post-op hospital stay was 1-5 days, mean stay being 1.63 days. Average cost of the Laparoscopic Cholecystectomy is PKR 1,500 excluding cost of hospitalisation and anaesthesia. There was no mortality.

Table-1: Per operative status of gall bladder

Gall bladder	No of patients	%
Acutely Inflamed	5	8.30
Chronic Inflammation	25	41.70
Mucocele	2	3.30
Normal	28	46.70

Table-2: Operative time

Time	Patients	%
Less than 60 minutes	8	13.30
Less than 90 minutes	19	31.70
Less than 2 hours	20	33.30
Less than 3 hours	10	16.70
More than 3 hours	3	5.00

Table-3: Conversion rate

Series	Conversion rate
Raza <i>et al</i> ¹	11.11
Saeed <i>et al</i> ⁸	3.20
Bhopal <i>et al</i> ⁹	7.50
Saleem <i>et al</i> ¹⁰	10.00
Tarcoveanu <i>et al</i> ¹³	16.00
shiazaki <i>et al</i> ¹⁴	6.40
Jaffary <i>et al</i> ¹⁹	3.00
Shamim <i>et al</i> ²¹	7.50
Cheema <i>et al</i> ²²	2.00
Elder <i>et al</i> ²³	12.50
This study	5.00

DISCUSSION

Since 1987, when first laparoscopic cholecystectomy was performed, there is continuous decrease in no. of open cholecystectomies. Now in developed countries less than 20%^{13,14} of the total cholecystectomies are performed by open method. In developing countries like Pakistan the procedure is still common due to lack of skill and apparatus as reported 32% by Iqbal *et al*¹⁵, 80% by Abbasi *et al*¹⁶. and 21.3% by Raza *et al*¹.

The present study elaborates the early experience of laparoscopic cholecystectomy in terms of morbidity and mortality. No surgical procedure is without having complications. Iterogenic bile duct

injuries have long been matter of concern and debate and laparoscopic cholecystectomy has been associated with an increase in the incidence of operative bile duct injuries.¹⁴ The procedure may be related to some serious complications like injury to aorta by veress needle or trocar. Dziel *et al*¹⁷ reported 13 cases of aortic injury with one death. Similarly Raviaco *et al*¹⁸ reported one injury to aorta and one to middle colic artery.

In our study majority (85%) of the patients were female which is consistent with the national¹⁹ and international^{5-7,12-14} papers. Mean age and minimum age is slightly less than reported in the literature^{13,19,20}.

Review of national and international data shows a conversion rate of 2% to 15% in various studies.¹⁴ The conversion rate is high amongst studies from developing countries^{1,8-11,21,22} when compared to the studies from developed countries^{12-14,17,18} (Table-3). Our study concluded the conversion rate of 5%. The reason for conversion was dense adhesion in two cases and dilated CBD in one case. The other reason reported in the literature are haemorrhage in Calot's triangle, slipped liga clips, gangrenous patches in the fundus, partial transaction of the CBD, injury to the stomach, instruments failure,¹⁹ and bilio-digestive fistula.^{1,15,21,22} We did not encounter any of these problems in our series.

Haemorrhage during the surgery occurred in 1 (1.7%) patient. This haemorrhage did not require conversion. Our observation shows fairly improved results as compared to the results of Raza *et al*¹ and Lim *et al*.²⁴ while results reported in other series^{10,18,21} show bleeding in less number of patients.

In this study 3 (5%) gall bladders were perforated. This is reported 0.97% by Khan S.¹⁰ The situation was handled by applying liga clips or holding the perforation site by grasper. Port site wound infection occurred in 1 (1.7%) patient. This is reported 2.2%¹⁰ and 1.63%²⁵ elsewhere. This infection required no special measures except dressing.

CONCLUSION

Laparoscopic Cholecystectomy is a safe and effective procedure in our set up and is up to the accepted standard as compared to national and international studies. Proper training of the young surgeons and availability of equipment are the main areas of concern.

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