MEDICAL CHANNEL

Original Article

LAPAROSCOPIC CHOLECYSTECTOMY – 5 YEARS EXPERIENCE AT SOM FAUJI FOUNDATION HOSPITAL KARACHI

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ABSTRACT:

Objective: This study was performed to observe the outcome and complications of Laparoscopic Cholecystectomy.

Methodology: It is a retrospective observational study conducted during January 2005 to December 2009 in Shaukat Omar Memorial(SOM) Fauji Foundation Hospital, Karachi.Inclusioncriteria. All patients above 15 years of age and symptomatic gall stone disease who had Laparoscopic cholecystectomy were included. Exclusion criteria: Acute cholecystitis of more than 3 days duration, jaundiced patients, CBD diameter more than 1 cm, stone in CBD on USG, medically unfit patients and children below 15 years of age. Laparoscopic cholecystectomies were performed by standard four port technique. Data of the patients collected retrospectively, entered in SPSS v.16 and analysed for demographic characteristics, outcome of operation and early and late complications up to 6 months follow up.

Results: Total 290 patients were included in the study. Females 260 (89.6%) and males were 30(10.4%). Age ranged from 15 to 70 years, mean age 48.5 +8.6 years. Mean operative time 40+9.5 minutes. Ninety eight percent patients were discharged within 24 hours except those who had some complication. Post op recovery and mobility was excellent with no major morbidity and no mortality at all. One patient (0.3%) hadcomplete transaction ofCBD, three patients (1%) had bleed during dissection at Calot's Triangle, one patient (0.3%) had mesenteric vessel injury during trochar insertion at umbilical port,one patient (0.3%) had small bowel taken into stitch during sheath closure of umbilical port, five patients(1.7%) had port site infection, two patients (0.6%) were converted toopen cholecystectomy. Port site hernia developed in 3 (1%) patients and 4 (1.3%) patients developed post-cholecystectomy syndrome.

Conclusion: Laparoscopic cholecystectomy is an effective treatment for symptomatic gall stone disease and has minimal complications.

Keywords: Laparoscopic cholecystectomy, outcome, complications.

INTRODUCTION:

Gallstone disease is a major global health problem.About 10 to15 million adult population in USA has gall stones and approximately one million new cases are diagnosed annually[1].In Karachi admission data from different hospitals shows that it is the 3rd commonest cause for admissions accounting for 14%[2] and 16%[3].Cholecystectomy was first introduced as the treatment of gallstone disease in 1882 by Langenbuch[4].Today open cholecystectomy has become a very safeprocedure and is considered gold standard treatment for gallstone disease with an overall morbidity of 4-8% and mortality of only 0.5%[5].Only 1-2 % of gall stones are symptomatic and need treatment[6].Laparoscopic cholecystectomy was introduced in 1987[7]and we started laparoscopic cholecystectomies in Shaukat Omar Memorial (SOM) Fauji Foundation Hospital, Karachi in late 2004.It is minimally invasive surgery and is superior to open cholecystectomy as it causes less surgical trauma, reduced hospital stay, less intra-abdominal adhesions and better cosmetic results[8].

TABLE 1:
Morphology of gall bladder – per operative finding

Morphology	No. of Patients	%
Acute Cholecystitis	29	10
Chronic Cholecystitis	94	32.4
Mucocele	8	2.8
Normal	159	54.8

TABLE 2:
Complications:

Complications:	No. of patients	%
Immediate and early:		
Complete transaction of CBD	1	0.3
Bleeding from Calot's triangle	3	1
Mesenteric vessel injury	1	0.3
Small bowel taken into stitch	1	0.3
Port site infection	5	1.7
Conversion to open cholecystectomy	2	0.6
Late:		
Port site hernia	3	1
Post-cholecystectomy syndrome	4	1.3

METHODOLOGY

This is a retrospective observational study. It was carried out at Shaukat Omar Memorial(SOM) Fauji Foundation Hospital, Karachi from January 2005 to December 2009. Total 290 patients of both sexes and above 15 years of age were included. Exclusion criteria was acute cholecystitis of more than 3 days duration, jaundiced patients, CBD diameter more than 1 cm, stone in CBD on USG, medically unfit patients and children below 15 years of age. Data of the patients whose laparoscopic cholestectomieswere performed during the above mentioned period was clloected retrospectively. The medical records and investigations were reviewed including demographic characteristics, indications for operation, past history, pre operative anaesthesia assessment, operating time, operative findings, any per operative complication, reason for conversion to open cholecystectomy, post op notes and follow up notes for complications. Reports of investigations such as Blood CP, Urine DR, LFT, Urea, Creatinine, Hepatitis screening, X-ray Chest, ECG were checked. Medical opinions of pts with associated conditions by medical specialist were reviewed.Normal four port technique was used; two of 10mm and two ports of five mm. Veress needle was not used in any patient, instead a small incision was given below umbilicus, rectus sheath and peritoneum were opened and trocar was introduced in abdominal cavity to induce pneumoperitoneum. Another port of 10 mm was introduced in epigastrium and two ports of five mm were introduced in right upper quadrant, all under direct vision.Carbon dioxide pressure was maintained between 12-15 mm of Hg during procedure. British technique of pulling the infundibulum laterally and creating right angle between CBD and cystic duct was used in all cases to avoid injury to CBD. Haemostasis achieved and any bile leakage was checked and stopped before finishing the procedure.Data collected was statistically analyzedand results compiled using SPSS v.16.

RESULTS.

Out of 290 patients260 (89.6%) were females and 30 (10.4%) males with a female to male ratio of 9:1. Age range was 15 -70 years with a mean of 48.5+ 8.6 years. Females mostly presented in 4th and 5th decade while males in 5th and 6th decades. Associated conditions included diabetes mellitus (6.9%), hypertension (5.8%) and IHD (3.4%). Most of the patients 248 (85.5%) had multiple gallstones while 42 (14.5%) patients had single stone. Per operative findings of the gallbladder morphology is depicted in Table 1. Approximately 98% of the patients were discharged within 24 hours except those who had some major complication i.e. CBD transaction and mesenteric vessel injury who stayed 6 days postopertively while patients with bleeding from Calot's triangle stayed for 48 hours. Post operative recovery and mobility was excellent with minimal morbidity and no mortality at all. Complications of laparoscopic cholecystectomy are shown in Table 2.

DISCUSSION:

Laparoscopic cholecystectomy provides a safe and effective treatment for most patients with symptomatic gallstones. Indeed it appears to have become the procedure of choice for most of these patients[9]. Early recovery and less post operative morbidity in cases of laparoscopic cholecystectomy may be related to minimal impairment of immune function and less post operative impairment of pulmonary function, although metabolic response is same in open as well as in laparoscopic cholecystectomy[10]. In Pakistan laparoscopic cholecystectomy is not common yet as compared to the developed countries because of less expertise and expansive instruments[11]. In our study female to male ratio was 9:1. This ratio varies in different studies e.g 12:1[12,13], 8:1[14]and 5.6:1[7]. Per operative findings of these case revealed that most of the patients (54.8%) had normal gall bladder with gallstones in them, 32.4% had chronic cholecystitis, 10% had acute cholecystitis and 2.8% had mucocele of gall bladder.Total complications were 20 (6.8%), out of which 13 (4.4%) were immediate and early complications and 7 (2.4%) were late complications. In the initial days of Laparoscopic surgery complications were more because of the use of Veress needle to induce pneumoperitoneum.Diezel et al[8] have reported 13 aortic injuries in 77604 patients. We have been using open method to produce pneumoperitoneum, so there were no vascular and gut insertional injuries, although there was 1 (0.3%) mesenteric vessel injury and 3 (1%) cases of bleeding from Calot's triangle due to adhesions from chronic cholecystitis. Bleeding is a serious complication and may result during dissection of gall bladder or slippage of clip/ligature from cystic artery. Memon et al[15] have reported 1.8% cases of bleeding. CBD injuries have been reported to occur from 0 to 1%[16, 17]in literature. Our study shows 0.3% CBD injury. There was no visceral injury during operation but in one case small bowel was taken into stitch while closing of the sheath necessitating re-insertion of laparoscope. In the literature visceral injuries are reported to be 0-5%[18, 19]. Port site infection occurred in 5 (1.7%) of cases in our series while Jan et al (2008)[20]have reported 5.78% port site infection. Conversion to open cholecystectomy was done in 2 (0.6%) cases (CBD injury and mesenteric vessel injury) while Bhutta et al (2004)[21]and Guraya

et al(2004)[12] have reported 3.11% and 2.9% conversion rates respectively. Among the late complications 3 (1%) patients developed port site hernia which was repaired later on. Port site hernia is a rare complication of laparoscopic cholecystectomy occurring between 0.02% to 3.6%[22]. Bhutta et al (2004)[23]have reported no case of port site hernia in a series of 100 cases. Post-cholecystectomy syndrome is the persistence of symptoms after gall bladder removal. It may occur from 5% to 40% of patients[24]. We had 4 (1.3%) post-cholecystectomy syndrome patients. All of them needed ERCP and sphincterotomy for relieving the symptoms.

CONCLUSION:

Laparoscopic cholecystectomy is a very safe and effective procedure. It has the advantages of quick recovery, excellent cosmetic results and acceptable rate of complications. Hopefully it will replace open cholecystectomy as gold standard of treatment for gall stone disease with the passage of time and improving expertise in Pakistan.

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