

Minicholecystectomy, Experience of 100 Cases At Continental Medical College, Township, Lahore

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ABSTRACT

Background: The standard treatment of gallstone disease has been cholecystectomy through a sub costal 7-10 cm incision. New techniques & procedures are developing in surgery aiming at decreasing tissue damage, pain, complications & stay in the hospital. This study was conducted to assess cholecystectomy through 5 cm sub costal incision.

Materials & Methods: This descriptive study was conducted at Department of Surgery, Ch. Rehmat Ali Memorial Hospital, Township, Lahore from January 2008 to December 2010. Cholecystectomy was performed through 5 cm sub costal incision. Both sexes were included in the study irrespective of age & duration of illness. Both acute & chronic cholecystitis was included. The total number of patients was 100; ninety were females & ten males. Mean age was 45 years. Ninety patients had chronic cholecystitis, five had acute cholecystitis & five had mucocele of gall bladder. Suction drains were placed in 10 patients.

Results: 100 patients with cholelithiasis were included in the study that underwent minicholecystectomy. In 10 cases the incision had to be enlarged because of difficulty in identifying anatomical landmarks. The average operating time was 50 minutes & average blood loss was 100 ml. The average post operative stay in hospital was 2 days.

INTRODUCTION

Most surgeons agree that cholecystectomy is the treatment of choice in patients with symptomatic gall bladder stones.¹ Carl Langenbech performed first open cholecystectomy in 1882 for symptomatic gall stones.^{2,3} There has been fundamental changes in the management of gall bladder stones & cholecystitis in the past two decade or so. Minicholecystectomy was first introduced in 1982 with the aim of reducing morbidity, post operative pain & limiting the scar to the minimum possible.^{9,10}

Standard Cholecystectomy incision is 7-10 cm muscle cutting incision. In minichol-ecystectomy a 3-5 cm long incision with either muscle splitting or retracting approach is employed. It reduces stay in hospital & patients with a smaller scar on the abdominal wall. However the technique requires surgical training, experience & good assistance.¹¹

The introduction of laparoscopic cholecystectomy has changed the landscape of gall bladder disease management & now laparoscopic cholecystectomy is considered to be the gold standard treatment for gall bladder disease. But surgeons still consider minicholecystectomy as an alternative to laparoscopic cholecystectomy.¹² This study was

conducted to assess cholecystectomy through 5 cm minilaparotomy incision. It does not require expensive apparatus like laparoscop.

MATERIALS & METHODS

This retrospective study was conducted at Surgical Department of Ch. Rehmat Ali Memorial (Trust) Hospital, Township, Lahore from Jan 2008 to dec 2010. During this period 100 patients with cholelithiasis irrespective of age & sex were included in the study. The effect of minicholecystectomy on pain, complications & stay in hospital were observed & noted.

Pre operative evaluation of all patients was done which comprised of the detailed history & meticulous physical examination. Necessary lab investigations & imaging tests were performed to confirm normal function of cardio-vascular & respiratory systems. Ultrasonography was performed in all patients for intra & extra hepatic biliary passages & condition of liver.

Patients with abnormal liver function tests & dilated CBD were excluded from the study because of limited exposure of the region in this study.

All operations were performed under general anesthesia. A 5 cm transverse incision was made

in the right sub costal region over the site of gall bladder. In young patients muscle was divided & in elderly it was split along its fibers & retracted. After opening peritoneum the junction of cystic duct with CBD was identified first. If the gall bladder was distended, it was aspirated first as empty or less distended gall bladder is easy to grasp for dissection. Cystic duct & artery were ligated with vicryl no 1 suture. Abdominal wall was closed in layers & skin with 2/0 or 3/0 Prolene subcuticular stitch. Subhepatic suction drains were placed in 10 patients. Nasogastric tube was not used in any case. Intravenous fluids were discontinued after 24 hours. Patients commenced on free oral liquids & light diet on first post-operative day.

RESULTS

Minicholecystectomy was performed through 5 cm incision with division of lateral half of rectus abdominal muscle. Mini cholecystectomy was possible in 90 cases.

5 cases had acute cholecystitis & 5 had mucocele of gall bladder. In 10 cases the anatomical land marks could not be identified satisfactorily through 5 cm incision & in these cases the incision was extended. The average operating time was 50 minutes & average blood loss was 100ml. Average post operative stay was 2 days. Sub hepatic collection developed in one patient which resolved on conservative treatment. It gave better cosmetic results than conventional cholecystectomy scar.

Table 1: Age & Sex Distribution of Patients

Age group (years)	Number of patients
35-45	40
46-50	30
51-55	30
SEX	
FEMALE	90
MALE	10

Table 2: Results of Procedure

Parameters	Results
Average operation time	50 min
Post operative complications	In 7 cases (7%)
Delayed return of bowel habits	In 2 cases (2%)
Mean hospital stay	2 days
Intra abdominal drain	In 10 cases (10%)
Work disability	6-8 days
Difficulties at operation	In 10 cases incision had to be extended

Table 3: Complications Of Minicholecystectomy

Complication	Number of Cases
1, Wound infection	4 (4%)
2, Sub hepatic collection	1(1%)
3, Ileus	2(2%)
4, Wound dehiscence	Nil
5, Pancreatitis	Nil
6, Urological infection	Nil
7, Pulmonary complications	Nil
TOTAL	7 (7%)

Table 4: Patients in whom incision had to be extended

Patient No.	Age (Years)	Pathology	Anatomical findings
1	47	Acute cholecystitis	Normal
2	54	Acute cholecystitis	Normal
3	40	Acute cholecystitis	Normal
4	39	Acute cholecystitis	Normal
5	50	Mucocele gall bladder	Normal
6	43	Ch cholecystitis	Low insertion of cystic duct
7	45	Ch cholecystitis	Low insertion of cystic duct
8	45	Ch cholecystitis	Low insertion of cystic duct
9	53	Ch cholecystitis	Double cystic artery
10	55	Ch cholecystitis	Double cystic artery

DISCUSSION

Minicholecystectomy was first described more than three decades ago by Dubais & Berthelot ¹ & favorable results were reported.^{2,3,4}

A large number of patients have been reported worldwide without any deaths or major CBD injury since the first report in 1982.¹⁻¹⁵

The aim of this procedure (mini cholecystectomy) is to remove the diseased gall

bladder safely with little trauma, early recovery, short hospital stay & better cosmetic outcome. The incision for open cholecystectomy has been getting smaller over the past decade with an attendant reduction in post-operative morbidity.¹³

Cholecystectomy is being performed for a long time & even these days by usual long Kocher's or paramedian incision because it is associated with lower incidence of pulmonary & abdominal complications.¹⁴⁻¹⁶

The Minicholecystectomy transverse incision that just splits the right rectus abdominis muscle is good & safe alternative to laparoscopic cholecystectomy but is associated with limited surgical exposure especially in obese patients. This can result in difficulty & significantly prolong the operation time. The transection of middle third of this muscle gives much better exposure & reduces operation time.^{17,18}

Indeed many surgeons are likely to feel more comfortable adapting to this technique rather than laparoscopic procedure because of obvious familiarity of operating directly on the biliary tree rather than indirectly using a two dimensional image on a monitor.

Reduction of abdominal wall trauma by this small incision results in rapid recovery & short hospital stay for the patients.^{19,20}

A recent study by Majeed & Colleagues showed that laparoscopic cholecystectomy took longer to perform than minicholecystectomy & had no significant advantage in terms of hospital stay or post-operative recovery.³

CONCLUSION

Minicholecystectomy is an effective minimally invasive surgical procedure for both acute & ch. cholecystitis. It has a low morbidity rate and an early return to oral diet. Furthermore, it requires few doses of post operative analgesia & a short hospital stay.^{5,6}

A small right sub costal transverse incision is appropriate choice in either normal sized or distended gall bladder.

Minicholecystectomy can be performed with use of routine instruments, and does not require any special instruments, thus reducing the expense.

Since not every case is fit for laparoscopic cholecystectomy, minicholecystectomy is a cheaper alternative & should be considered in gall bladder disease, particularly in our country with limited & expansive availability of Laparoscopic

facilities. In some cases, post-operative pain may require more analgesia due to use of retractors for exposure in minicholecystectomy.

However, special training is essential to become familiar with this procedure.

CONTRIBUTIONS BY AUTHORS

The article was conceived and designed by Dr. Sohail Anjum. Analysis and data interpretation were done by Dr. Imran Saeed. Data was collected and entered in SPSS by both. Literature was searched by Dr. Sohail, whereas technical and logistic support was provided by Dr. Imran Saeed.

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