

# LAPROSCOPIC VERSUS MINICHLOECYSTECTOMY

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## ABSTRACT

**Objective:** To know the out come of Leproscopic versus Minichloecystectomy.

**Material and Methods:** This study was conducted in Surgical C Unit, Khyber Teaching Hospital, Peshawar from January 2012 to October 2012. Hundred patients were randomly divided into group A undergoing laparoscopic cholecystectomy and group B undergoing mini-cholecystectomy. The study was designed as quasi-experimental. Visual analogue score (VAS) of 10 points was used to measure the pain intensity. Data was collected on prescribed proforma and analyzed using SPSS 17.

**Results:** Mean hospital stay was not statistically different. Mean visual analogue score (VAS) for pain was  $4.5 \pm 2.002$  in group B and it was  $4.36 \pm 1.33$  for group A in 1st 24 hours (p-value 0.42). 22% of patients had Postoperative nausea and vomiting in group B while 18% of patients in group A. There were 8% of patients with gall bladder perforation in Group B and 24% in group A. Bleeding of gallbladder fossa was 6% and 18% in group B and group A respectively.

**Conclusion:** Lap-cholecystectomy is not different from mini cholecystectomy in our setup which can be improved by structured training and use of modern simulators.

**Key Words:** Laparoscopic, cholecystectomy, Mini-cholecystectomy, conventional, cholecystectomy.

## INTRODUCTION

Laparoscopic cholecystectomy is considered as gold standard for the treatment of gall bladder stones nowadays but the equipment is expensive and only available in tertiary care hospitals<sup>1,2,3</sup>. The learning curve is long. Perhaps, this is the reason that it is not widely practiced; instead open cholecystectomy is more frequently practiced. Laparoscopic cholecystectomy has many advantages over open cholecystectomy like short hospital stay, less pain, nausea and vomiting. Moreover, it has superior cosmetic results which are the basis for gaining popularity. It is being considered safe in pregnancy<sup>4</sup>. Despite this, mini-cholecystectomy has gained great attention as an alternative due to less expanse and easy availability of equipment. Mini-cholecystectomy has less incisional scar, less postoperative pain. It also needs experience both on the part of surgeon and his assistant<sup>5</sup>.

Primary variables of our study were to compare postoperative pain, operative time and hospital stay. Secondary end point was to compare peroperative perforation of gall bladder, postoperative nausea, vomiting and bleeding from gall bladder fossa.

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## MATERIAL AND METHODS

This study was conducted in Surgical C Unit Khyber Teaching Hospital, Peshawar from January 2012 to October 2012. Hundred patients with cholelithiasis were randomly divided into two groups. Group A consisting of 50 patients undergoing laparoscopic cholecystectomy and Group B consisting of 50 patients undergoing mini-cholecystectomy. All the patients were admitted through OPD. They were thoroughly assessed by senior consultants. All the patients with major co-morbidities like congestive cardiac failure, chronic liver disease, COPD, acute pancreatitis, previous laparotomy, uncontrolled Hypertension and bleeding disorders were excluded from the study. Consent was taken from all patients. The study was carried out after approval from ethical committee. Visual analogue score of 10 points was used to measure the pain intensity. All the patients were operated by senior consultants. Data was collected on prescribed proforma, which was analyzed using SPSS version 17. Chi square test was applied to know the significance. P-value equal or less than 0.05 was taken as significant.

Laparoscopic cholecystectomy was performed by placing three ports; sub-umbilical, subxiphoid, along the anterior axillary line. Sub-hepatic drain was placed in all the patients even with mild to moderate ooz of blood.

In case of mini-cholecystectomy, 4 cm right subcostal incision was made; sub-hepatic drain was

not routinely, it was placed only in cases with moderate ooze of blood. In all cases, wound was closed in two layers with vicryl 1 and skin with prolene 2/0. A dose of 2nd generation cephalosporin at the time surgery was given. Postoperatively, each patient was given non-steroidal anti-inflammatory drugs; same as peroperative antibiotic, antiemetic like Dimenhydrinate on need base. Ondansetron was used in case of nausea and vomiting not responding to Dimenhydrinate. All the patients were followed both immediately in the ward and were called for follow up at two weeks.

## RESULTS

Mean age of patients in group A was  $39.58 \pm 11.79$  years (range 18-68 years) while it was  $42.9 \pm 13.4$  years (range 15-70 years) in group B. In group A, 42.9% (50) were male and 51.2% (50) were female. In group B, 57.1% (50) were male and 48.8% (50) were female. Statistically the difference was not significant ( $p$ -value = 0.564). Of various areas of Khyber Pakhtunkhwa and adjoining Afghanistan, majority of our patients belonged to Peshawar. Mean hospital stay was  $2.76 \pm 2.06$  days for group B and  $2.56 \pm 1.47$  days for A, chi square tests shows  $p$ -value of 0.74. Mean operative time since induction of anesthesia was  $68.96 \pm 12.49$  minutes for group B and  $66.6 \pm 14.29$  minutes for group A, chi-square test shows  $p$ -value of 0.924. Mean VAS for pain was  $4.5 \pm 2.002$  in group B and it was  $4.36 \pm 1.33$  for group A, chi-square test shows  $p$ -value of 0.42. 22% of patients had Postoperative nausea and vomiting in group B while 18% of patients in group A. Chi-square test showed  $p$ -value of 0.617. There were 8% of patients with gall bladder perforation in Group B and 24% in group A. Chi-square test showed  $p$ -value of 0.029. Bleeding of gallbladder fossa was 6% and 18% in group B and group A respectively with  $p$ -value of 0.065, see Table 1.

## DISCUSSION

Gall stones disease is a major health problem. The incidence of gall stones is about 15-20%, out of them; 30-50% of the patient gets symptomatic in the west<sup>6</sup>. Short hospital stay reduces the cost. In our study, mean hospital stay for mini-cholecystectomy was 2.76 days (1-10) and 2.56 days (1-8) for laparoscopic cholecystectomy. This corresponds well to the results

reported by national studies; however, international studies have reported shorter hospital stay for laparoscopic cholecystectomy<sup>7,8,9</sup>. The operation time since the initiation of anesthesia was a little longer in case of mini-cholecystectomy (68.96 minutes) than laparoscopic (66.14 minutes) but statistically the difference was not significant ( $p=0.924$ ). Medureira FA who studied 57 patients has reported longer mean operative time for laparoscopic cholecystectomy. Ros A has observed similar results with long mean operative time for laparoscopic cholecystectomy<sup>10,11</sup>. We used visual analogue score for measurement of pain. Mean postoperative pain score in first 24 hours was  $4.5 \pm 2.002$  for mini-cholecystectomy and  $4.36 \pm 1.33$  for laparoscopic cholecystectomy. The difference was not significant ( $p=0.42$ ). According to the Lai EC, mean pain score recorded for laparoscopic cholecystectomy was 4 at 6 hours<sup>12</sup>. Another study conducted by Novitsky YW, average pain score recorded was 3.9 for mini-cholecystectomy and 4.9 for laparoscopic cholecystectomy, thus postoperative pain was variable<sup>13</sup>. Without antiemetic, the postoperative nausea was as high as 35-75%<sup>14</sup>. This was especially common in patients with motion sickness, opioid analgesic, and long duration of anesthesia and the extreme age of patients<sup>15</sup>. The regular use of antiemetic significantly reduced the incidence of postoperative nausea and vomiting. In our study nausea and vomiting was observed in 18% patients of Laparoscopic cholecystectomy and 22% in mini-cholecystectomy. Ondansetron and dexamethasone were used in patients unresponsive to Dimenhydrinate. The results of our study were comparable to international studies<sup>16</sup>. In our study, 24% of patients were found with Gall bladder perforation and spillage of bile in the peritoneal cavity in case of laparoscopic cholecystectomy, whereas in mini-cholecystectomy, gall bladder perforation was 8%. This was statistically significant ( $p=0.029$ ). Zubair M and Suh SW have reported similar results in laparoscopic cholecystectomy<sup>17,18</sup>. Comparatively higher rate of bleeding from gall bladder fossa was observed in laparoscopic than mini-cholecystectomy (18% versus 6%). It may be due to meticulous dissection under direct manual and visual control and greater experience in open surgery. Various rate of bleeding from gall bladder bed in laparoscopic cholecystectomy has been observed in studies carried out

**Table 1: Comparison of variables in both groups**

Variables	Group B	Group A	P-value
Hospital stay	$2.76 \pm 2.06$ days	$2.56 \pm 1.47$ days	0.74
Operation time	$68.96 \pm 12.49$ minutes	$66.60 \pm 14.29$ minutes	0.92
Pain(VAS score)	$4.5 \pm 2.002$	$4.36 \pm 1.33$	0.04
Nausea and vomiting	22%(11/50)	18%(9/50)	0.61
Gall bladder perforation	8%(4/50)	24%(12/50)	.029
Bleeding gall bladder fossa	6%(3/50)	18%(9/50)	0.65

internationally ranging from 4.6% to 14%. Amir M reported bleeding from gall bladder fossa as low as 0.5% in mini-cholecystectomy<sup>19</sup>. The observations of Halilovic H were not different from Amir M in mini-cholecystectomy<sup>20</sup>. Bleeding from Gallbladder fossa in case of mini-cholecystectomy was easily controlled by gentle pressure packing for few minutes or approximation of Gall bladder fossa with absorbable suture under direct vision; hence no need for drain was educated in most of cases only 4 cases were required for the placement of drain. In case of laparoscopic cholecystectomy, where sub-hepatic drain was placed in all the cases, most of them were found to contain less than 50 ml of blood stain fluid and removed next day, and therefore were not necessary even. Instead, it is believed to be the cause of pain, nausea, increase hospital stay and increased rate of complications<sup>21,22</sup>.

## CONCLUSION

There is not much difference between the two procedures in our set up, hence it is emphasized that adequate training and practicing especially on modern simulators should be instituted and these should be continued throughout medical carrier as a part of continued medical education.

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## CORRIGENDUM

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Title:- Comparison of Serum TSH and T4 levels in preterm and term Neonates for screening of congenital Hypothyroidism

Author Name: Zia Muhammad, Muhammad Irshad

Should be read as follows:

Title:- Comparison of Serum TSH and T4 levels in preterm and term Neonates for screening of congenital Hypothyroidism

Author Name: Dr. Zia Muhammad, Dr. Irshad, Dr. Sabir Khan, Dr. Amin Jan

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