

# Outcome of Laparoscopic Cholecystectomy

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## ABSTRACT

**Aim:** To analyze the outcome of the laparoscopic cholecystectomy

**Methodology:** This randomized controlled trial was conducted in Surgical Ward Umar Hospital, Multan from July 2017 to November 2018. Five hundred and seventy cases of gallstone disease were registered that content the inclusion criteria. The allocation of cases to two study groups was settled by random number table. Patients in group-A underwent lap chole with drain insertion and those in group-B had cholecystectomy without drain.

**Results:** Five hundred and seventy patients fulfilling the indication of laparoscopic cholecystectomy were subjected to the procedure. Patients were divided equally into Group A (with drain) and Group B (without drain). 12 hours post operatively subjective complaint of pain was assessed and projected to visual analogue scale (already defined). 65(22.8%) patients experienced severe pain in group A as compared to 37(12.98%) patients in group B.

**Conclusion:** Laparoscopic cholecystectomy without drain is better than with drain, with low post operative pains.

**Keywords:** Laparoscopic, cholecystectomy, drain, pain.

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## INTRODUCTION

Gall stone disease is a major health problem world wide, particularly in adult population<sup>1</sup>. Sometimes it remain asymptomatic but most of the times it presents with right upper quadrant pain, nausea and vomiting. If not treated, it may lead to complications like acute or chronic cholecystitis, obstructive jaundice and rarely carcinoma gall bladder<sup>2</sup>. The surgical management of gallstones has been revolutionalized after the advent of laparoscopic cholecystectomy since 1985 and has become one of the most common general surgical procedure<sup>3</sup>. This technique has virtually become the gold standard in the management of cholecystitis<sup>4</sup>.

During last two centuries, surgeons have used drains for prophylactic purposes to remove intra peritoneal collections such as ascites, blood, bile, pancreatic and intestinal secretions. These collections might become potentially infected or, in case of bile and pancreatic juice, toxic for adjacent tissues. Theodor Billroth was convinced that prophylactic drainage of peritoneal cavity saved many lives after gastrointestinal surgery. Other contemporaries believed that drainage of peritoneal cavity is useless<sup>5</sup>.

It was demonstrated that wound infection was significantly higher in patients who underwent laparoscopic cholecystectomy with drain. (OR 5.86, 95% CI 1.05 to 32.70)<sup>6,7,8</sup>. It was described significantly increased postoperative pain in patients who had a drain placed; median visual analog scale (VAS) score was 5 (range 1 to 8) versus 3 (range 1 to 8), in the non-drained group ( $P < .0001$ ). So he concluded that use of a drain in elective laparoscopic cholecystectomy has nothing to offer; in contrast, it is associated with increased pain.

The objective of the study was to analyze the outcome of laparoscopic cholecystectomy.

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## MATERIAL AND METHODS

This randomized controlled trial was carried out in Surgical Ward Umar Hospital, Multan from July 2017 to November 2018. Five hundred and seventy cases of gallstone disease were taken which fulfilled the inclusion criteria. The allocation of cases was taken in two study groups were settled by random number table. Patients in group-A (285) were undergone laparoscopic cholecystectomy with drain insertion and those in group-B (285) had cholecystectomy without drain.

## RESULTS

Five hundred and seventy patients with indication of Laparoscopic cholecystectomy were included in study. Minimum age was 22 years and maximum 79 years with mean 47.60 years. All the subjects included in study were belonging to both genders.

On clinical examination of either of the inguinal area, lump with expansile cough impulse was elicited in all 70 patients. 63(90%) patients had unilateral (right or left) inguinal hernia and the rest 7 (10%) had bilateral inguinal hernia. Another 7(10%) patients had history of recurrence from previous surgery of inguinal hernia.

Taking the treatment options in account, 35(50%) patients in group-A were operated with laparoscopic (TEP) technique. While other 35(50%) patients included in group-B were treated with conventional open mesh hernioplasty (Lichtenstein Repair). After 48 hours, 49(70%) patients experienced mild or no pain. However 15(21.4%) had moderate pain and 6(8.6%) had severe pain.

Laparoscopic Hernioplasty group: 28(40%) patients had only mild or no pain while only 1(1.4%) patient experienced severe pain. 6(8.6) patients had moderate pain. Open Mesh Hernioplasty group: Only 21(30%) had mild or no pain. 9(12.9%) had moderate and another 5(7.1%) had severe pain. Similarly on 7<sup>th</sup> postoperative day, 60(85.7%) patients were having either no pain or mild pain. Out of remaining 10(14.3%) patients, 6(8.6%) had moderate pain while 4(5.7%) had severe pain.

Laparoscopic Hernioplasty group: 32 (45.7%) had mild or no pain while only 1(1.4%) had moderate and 2(2.9%) had severe pain. Open Mesh Hernioplasty group: 28 (40%) had mild or no pain. 5(7.1%) had moderate and 2(2.9%) had severe pain. Wound infection occurred in 3(4.3%) cases, out of which 2 (2.9%) wounds were infected in group-B (Open Mesh hernioplasty) and 1(1.4%) wound got infected in group-A (Laparoscopic Hernioplasty).

Table 1: Frequency of pain at 12 hours

Pain	Frequency	Percentage
No Pain	83	14.56
Mild	202	35.43
Moderate	183	32.10
Severe	102	17.89
Total	570	100.0

Table 2: Comparative frequency of pain at 12 hours with and without drain

Pain at 12 hours				Total
No Pain	Mild	Moderate	Severe	
<b>Laparoscopic Cholecystectomy with drain</b>				
29	104	87	65	285
10.17%	36.49%	30.52%	22.80%	50.0%
<b>Laparoscopic Cholecystectomy without drain</b>				
54	98	96	37	285
18.94%	34.38%	33.68%	12.98%	50.0%
<b>Total</b>				
83	202	183	102	570
14.56%	35.43%	32.10%	17.89%	100.0%

Chi square test; 4.267 p value; Insignificant

## DISCUSSION

Use of a prosthetic mesh to create tension free repair as well as the laparoscopic technique has gained popularity for repair of inguinal hernia<sup>4</sup>. Use of mesh is common and increasing<sup>9</sup>. With the use of mesh in open hernia surgery resulting in tension free repair, the recurrence rate as well as rehabilitation period has reduced compared to sutured repairs<sup>10</sup>. Mesh repair has shown to reduce recurrence by 50% no matter what technique of mesh placement is used<sup>11</sup>.

Pre-peritoneal sub umbilical approach was used to retro-fascial space since 1969<sup>12</sup>. In laparoscopic TEP technique dissection and placement of mesh is done in the pre-peritoneal retro-fascial as done by Stoppa in his technique by open surgery. Therefore laparoscopic TEP repair is expected to combine advantages of Stoppa's approach with that of minimally invasive surgery. Laparoscopic TEP repair of inguinal hernia is totally extraperitoneal approach as entry into peritoneal space is avoided.

The study was carried out to compare early post operative outcome of laparoscopic inguinal hernioplasty with open mesh hernioplasty in terms of early post operative pain and wound infection. Seventy patients presented to out-patient department Umar hospital, were included in study. Patients were arbitrarily divided into two groups; group A for laparoscopic and group B for open mesh hernioplasty. The principal technique for group A patients was totally extra-peritoneal mesh hernioplasty (TEP) and for group B was open anterior mesh hernioplasty (Lichtenstein's repair).

This significant difference in pain scores persisted even after day 7. At 7<sup>th</sup> post operative day, 3(4.3%) patients had reasonable to harsh pain in laparoscopic group while in open group, 7(10%) patients had reasonable to harsh pain.

Laparoscopic compared with open repair of incision and main ventral hernia showing remarkably lower rate of wound infection in laparoscopic cluster (6% versus 33%)<sup>17</sup>. In my study, rate of wound infection was overall (4.3%) lower in both the groups. Hence, laparoscopic hernioplasty was observed to have lesser risk of wound infection, though not that much significant.

## CONCLUSION

Laparoscopic cholecystectomy without drain is better than with drain, with low post operative pains.

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