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# OUR EXPERIENCE IN LAPAROSCOPIC CHOLECYSTECTOMY: A RETROSPECTIVE STUDY

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## ABSTRACT

**Introduction:** Cholecystectomy is the surgical resection of the gallbladder and is one of the most routinely performed surgical procedures by general surgeons all over the world. Surgical options include the newer, standard procedure called laparoscopic cholecystectomy and an older, more invasive procedure called open or traditional cholecystectomy. Cholecystitis is mainly due to calculous stones or commonly known as gallstones. One of the contraindication of laparoscopic cholecystectomy is Mirizzi syndrome. **Aims:** This study aims to evaluate the advantages and disadvantages of laparoscopic cholecystectomy and to assess the outcomes postoperatively. **Materials and methods:** A prospective study was conducted on 52 patients with calculous cholecystitis admitted in the surgical ward of a single unit in Medicon Click health services, Bangalore, from September 2010 to January 2015. **Results:** Of the 52 cases who underwent laparoscopic cholecystectomy, and were followed up for a period of 1year, females accounted for 84.6%. Maximum age prevalence was noted in the age group between 21 years to 30 years. The mean operating time was 75 minutes with a mean postoperative stay off 48 hours. Intraoperative complications included gall bladder perforation and haemorrhage. Surgical site infection of about 13.5% was the most common postoperative complication. **Conclusion:** Laparoscopic cholecystectomy is the gold standard treatment in calculous cholecystitis

**KEYWORDS:** Laparoscopic cholecystectomy, calculous cholecystitis, Mirizzi Syndrome.

## INTRODUCTION

Cholecystitis is defined as inflammation of the gallbladder that occurs most commonly because of an obstruction of the cystic duct from cholelithiasis. Ninety percent of cases involve stones in the gallbladder [calculous cholecystitis] with 10% cases representing acalculous cholecystitis.[1]

The major cause for cholecystitis is calculous cholecystitis and about 10-15% of adults in developed nations have gallstones.[2]

Gallstones may be cholesterol, bilirubin or mixed type. Cholecystectomy is the surgical removal of the gallbladder and is one of the most commonly performed procedures by general surgeonsaround the world. Until the end of the 1980s, open cholecystectomy was the gold standard for treatment of gallstones. Laparoscopic cholecystectomy was introduced in 1985 by Mühe and rapidly became the method of choice of surgical removal of the gallbladder although the evidence of superiority was absent.[3]

Laparoscopic cholecystectomy has received nearly universal acceptance and is currently considered the criterion treatment of symptomatic cholelithiasis.[4,5]

Studies conducted in order to compare laparoscopic and open cholecystectomy report no significant differences in mortality, complications and operative time between the two.[6]

However, laparoscopic cholecystectomy is associated with a significant shorter hospital stay, a quicker convalescence and lesser exposure to infection compared to open cholecystectomy. This confirms the existing preference for laparoscopic over open cholecystectomy.[3,7,8]

In addition, laparoscopic procedures may have less impact on immune function than open technique.[9]

One of the contraindication of laparoscopic cholecystectomy is Mirizzi syndrome as Calot triangle is often obliterated and risk of causing injury to CBD are high. In 1948 PL Mirizzi described an unusual presentation of gallstones that when lodged in either the

cystic duct or the Hartmann pouch of the gallbladder externally compressed the common hepatic duct causing symptoms of obstructive jaundice.[10] This can lead to necrosis, fibrosis and ultimately fistula formation.

## MATERIALS AND METHODS

The study has been carried out on 52 proven patients of gallstones (ultrasonographically) from September 2010 to January 2015 admitted in the surgical ward of a single unit in Medicon Click health services, Bangalore. A detailed clinical health evaluation was done in all patients.

In this study, four trocar technique was used, creating a pneumoperitoneum by using carbon dioxide insufflation with a maximum intraperitoneal pressure of 12-15 mmHg.

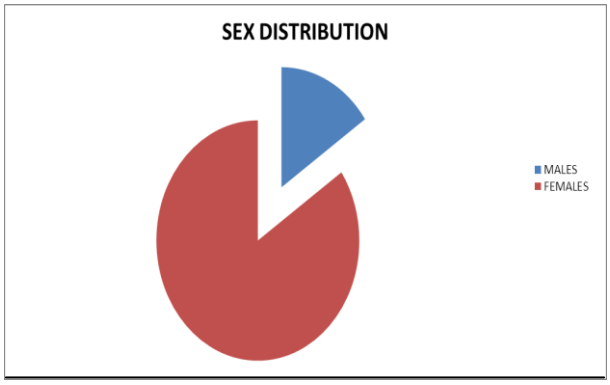
## OBJECTIVES

- To evaluate the advantages and disadvantages of laparoscopic cholecystectomy for patients with symptomatic cholelithiasis.
- To assess laparoscopic cholecystectomy in terms of primary outcomes [mortality, complications (intraoperative, severe, bile duct injuries), symptomatic relief] and secondary outcomes [conversion to open cholecystectomy, operative time, hospital stay and convalescence].
- Other secondary outcomes like analgesic use, postoperative pain, pulmonary function and costs were compared as well.

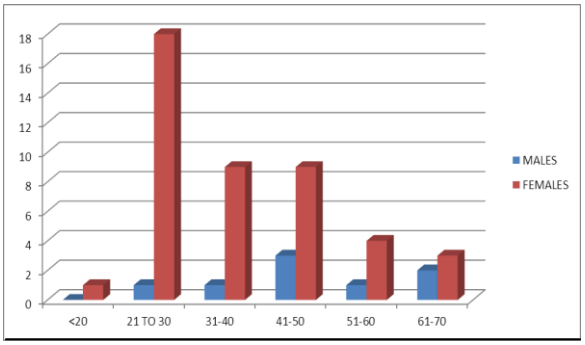
## RESULTS

A total of 52 cases were admitted under a single surgical unit at Medicon Click health services Bangalore who underwent laparoscopic cholecystectomy were included in the study. All patients were followed up for a period of 1year.Females accounted for 84.6% of the cases (44 of 52 subjects). Maximum age prevalence was noted in the age group of 21-30yrs.

Intraoperative complications included gallbladder perforation and bleeding from gallbladder bed. No other complications were noted.




**Age and Sex Wise Disrtribution**




**Intra Operative Statistics**

| | | |
|---|---|---|
| **Mean operating time** | 75 Minutes | Range- 50-90 Minutes |
| **Mean postoperative stay** | 48 Hours | Range- 48-72 Hours |
| **Mean follow-up period** | 1 Year | |

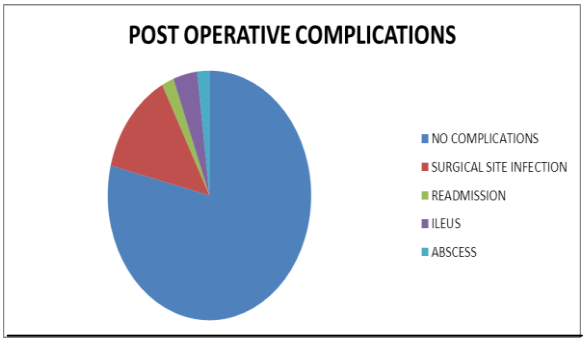
**Complications**

**Intra Operative**

| Complication | Number of Cases |
|---|---|
| Gallbladder perforation | **2** |
| Bleeding | **2** |
| Others(Not Specified) | **0** |

**Post-Operative**

| Complication | Number of Cases |
|---|---|
| Retained bile duct stone(ercp) | 0 |
| Surgical site infection | 7 |
| Wound hematoma | 0 |
| Phlebitis | 0 |
| Readmission(abdominal pain) | 1 |
| Ileus conservative | 2 |
| Abscess(drainage/unspecifed) | 1 |
| Biliar fistula(unspecified/conservative) | 0 |
| Pneumonia | 0 |
| Respiratory insufficiency/atectasis | 0 |
| Upper gi bleeding(endoscopy/conservative) | 0 |




## DISCUSSION

The mean operating time was 75 minutes (ranges from 50 to 94 minutes) and a mean postoperative stay of 48 hours.

Complications which we came across during surgery include gallbladder perforation seen in two cases and the stones were retrieved individually and through peritoneal wash in both instances.

Significant bleeding was witnessed in two patients. Venous ooze from liver surface was managed conservatively.

Post operatively, the most common complication was surgical site infection (seen in 7 patients which is about 13.46%). Other complications include ileus (2 patients – 3.84%), pain abdomen requiring readmission and abscess formation (1 in each – 1.92% each).

In this regard, a meta-analysis conducted to compare laparoscopic cholecystectomy and open cholecystectomy reported similar findings. Laparoscopic cholecystectomy included those procedures started as laparoscopic procedures with creation of a pneumoperitoneum (by Veress needle or open instrument) or mechanical abdomen wall lift, irrespective of the number of trocars used.[3,11]

In all other cases the surgical intervention was classified as 'open cholecystectomy'; this traditional procedure can be carried out through a larger subcostal incision or median laparotomy. The length of incision of 8cm was used as a cut-off point between small incision and open cholecystectomy. This incision length was chose arbitrarily as in literature as in most authors used this length as cut-off point between small incision and open cholecystectomy.[12,13]

## CONCLUSION

Laparoscopic cholecystectomy has been proven to be more efficacious when compared to open cholecystectomy and is gold standard treatment for calculous cholecystitis.

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