



## ORIGINAL RESEARCH ARTICLE

### MIRROR OF SURGERIES OF GALL STONES DISEASES IN LUMBINI ZONAL HOSPITAL Narad Prasad Thapaliya,<sup>1</sup> Krishna Prasad Khanal,<sup>1</sup> Bhuwan Poudel,<sup>1</sup> Sharad Pokhrel,<sup>1</sup> Ruckmeni Sharma<sup>1</sup>

<sup>1</sup>Department of Surgery, Lumbini Zonal Hospital, Butwal, Nepal.

\*Correspondence to: Dr. Narad Prasad Thapaliya, Department of Surgery, Lumbini Zonal Hospital, Butwal Nepal.  
Email: [naradthapaliya@yahoo.com](mailto:naradthapaliya@yahoo.com)

#### ABSTRACT

**Introduction:** Cholelithiasis is common cause for surgical outpatient consultation. Cholecystectomy is most common surgical procedure performed as elective basis in Lumbini Zonal Hospital, Butwal. The aim of this study is to show the mirror of surgeries of gall stones diseases in Lumbini Zonal Hospital, Butwal. **Methods:** A retrospective analysis of cholecystectomy performed in Lumbini Zonal Hospital over a period of 5 years (Biasakh 2069BS- Chaitra 2073BS) was done after the approval from ethical committee. Demographic profiles, complications and other required information were retrieved from the documents available in medical record section. **Results:** Total of 372 cholecystectomies were done for different spectrum of gallstones diseases during the study period. Most of the patients were female (341, 92%). The age distribution of the operated patients was 17 years to 75 years. Most of the operated patients (190, 51.07%) were in their productive age (17- 40 years). Most common complications found post operatively were chest infection, SSI. Mid hospital stay was 3.16 days (1-6 days). Total bile duct injury was 1 (0.26%) comparable to other studies. **Conclusion:** Cholecystectomy is one of the most common operative procedures performed in our hospital with postoperative outcomes comparable to reported outcomes of other institutions of the world.

**Key words:** Gall Stone disease, Surgery, Lumbini

#### INTRODUCTION

Cholelithiasis is one of the common causes for surgical outpatient department visit. It is the one of the ancient diseases and found even in mummies of Egypt. Basis for gall stones diseases is imbalance between lecithin, bile salts and cholesterol in bile. Thus, gallstones represent a failure state of body mechanism to maintain certain biliary solutes, primary salts and calcium salts in soluble state. Some had postulated the intake of fatty diets as a mechanism for gall stones formation. As some of the part of world like northern India and Nepal had higher prevalence of gallstones disease, we can say diet has some role in stone formation. Biliary sludge may act as nidus for gallstones formation.<sup>1</sup>

Initial triggering factors for gallstones formation are multifactorial and mainly divided in to metabolic, infections and bile stasis. Similarly based on

compositions of the stones, gallstones could be pure cholesterol stones, mixed stones (90%) or pigment stones.<sup>2</sup>

Most of the patients with gall stones will have no symptoms or they may present with gallstones related symptoms (dyspepsia, indigestion etc.) or complications (acute cholecystitis, choledocholithiasis, biliary pancreatitis, gall stones ileus etc.). Association of gall bladder carcinoma with gall stones disease is seen but cause and effect relation not proved till date.

Diagnosis of gall stones is increasing due to the availability of ultrasound, which is the gold standard tool for diagnosis. Now, even in the peripheral hospital of the Nepal possessed this tool of investigation. Being the referral hospital of this region, we are getting lots of referral related to gallstones diseases. The other mode of investigations is less

reliable like CT scan of abdomen, abdominal x-ray. Some of the older methods like cholescintigraphy, oral cholecystography are no longer used. MRI is indicated when biliary complications related to gallstones disease like mirizzi syndrome and choledocholithiasis suspected.

Usually only symptomatic cholelithiasis requires surgery and in some cases like diabetic patient, hemolytic disorders or after bariatric surgery requires prophylactic surgery.<sup>3</sup> Cholecystectomy is usually a elective procedure and only small number of patients truly demands emergency surgery.<sup>4</sup>

Open cholecystectomy was first described by Langenbuch in 1882. Similarly, in 1985 the first laparoscopic cholecystectomy was performed by Muhe of Bobligen, Germany. Open cholecystectomy was treatment of choice in past for cholelithiasis who requires surgery but now laparoscopic cholecystectomy is gold standard.<sup>5</sup> Common complications of cholecystectomy include intra and postoperative bleeding, bile ducts injury noticed intraoperatively or postoperatively, bile leak, biliary stricture, SSI, post cholecystectomy syndrome. About the use of antibiotics there is controversy. Few trials showed reduction of the wound infection rate with the use of the perioperative (pre and post) antibiotics.

## METHODS

This is the retrospective study conducted in Department of Surgery, Lumbini Zonal Hospital. After ethical clearance, all the documents of patients who had undergone cholecystectomy in the year 2069 BS to 2073 BS were obtained. Data analysis was done by using standard statistical tools. Complications were defined and included when fits to the defined criteria.

**Significant Bleeding:** intraoperative or postoperative bleeding requiring intervention (blood transfusion), re-exploration or causing hemodynamic instability.

**Surgical site infection (SSI):** defined by surgeon or discharge of pus from the wound site.

**Chest infection:** diagnosed with chest x-ray or with signs and symptoms by treating physicians.

**Bile duct injury:** injury to bile duct noticed intraoperatively or postoperatively including the bile duct stricture.

## RESULTS

Total 372 cholecystectomies were done over the study period. Males were 31(8%) and females were 341(92%). Year wise distribution of number of cases is shown in figure I.

**Table I: Years wise distribution of cholecystectomy cases**

S.N.	Year (B.S.)	Number of cases
1	2069	83
2	2070	69
3	2071	71
4	2072	75
5	2073	74
Total		372

Similarly, in age distribution was from 17 to 75 years with mean age of 45.3 years. Most of the patients fall below age of 40 years (table II).

**Table II: showing age distribution of patients**

S.N.	Age groups	Number of cases
1	≤40 years	190
2	41-60 years	168
3	≥61 years	14
Total		372

Indications of cholecystectomy are depicted in the table III symptomatic cholelithiasis being the most common indication.

**Table III: Years wise distribution of cholecystectomy cases**

S.N.	Indications	Numbers of patients
1	Stones impacted in neck with mucocele	4
2	Empyema gallbladder	2
3	Gall bladder polyps	7
4	Stones impacted in neck with mucocele	2
5	Prophylactic cholecystectomy	11
6	Interval cholecystectomy	77
7	Cholelithiasis with symptoms of dyspepsia	169
Total		372

Similarly, cholecystectomy related complications were measured (table IV). It showed that chest infection and SSI were the most common complications observed.

**Table IV: Showing postoperative complications**

S.N.	Complications	Number of patients
1	Bleeding	2
2	Bile duct injury	1
3	Chest infection	4
4	SSI	3
5	Others	1 (sepsis with right pleural effusion)
Total		12

All the specimens were sent for histopathological examination and no incidental gallbladder carcinoma was found. No mortality was seen during study period. Post-operative hospital days was also calculated and found to be 3.16 days (1-6 days). We, in Lumbini Zonal Hospital only started Laparoscopic cholecystectomy in late 2073 BS (January 2017), i.e. why 98% were open cholecystectomies in our study. In our institute we routinely used preoperative prophylactic antibiotics 30 minutes prior to incision and two additional doses postoperatively.

#### DISCUSSION:

The term cholelithiasis arises from the Greek words (chole-bile + litho- stones + iasis- process). About 14 -16% of population of the united states have gallstones diseases but exact incidence of gallstones diseases in Nepal is not known. About 600,000 cholecystectomies done each year in United States. The incidence of cholelithiasis in black population is very low. Older mentions of typical patients as 5 F (fertile, fair, forty, fat and female) for cholelithiasis

is no longer true as this disease is distributed in all age groups of patients.

Both the symptomatic gall stones diseases and in some cases asymptomatic gallstones diseases required surgery. In our study also, we have different indications for surgery in gall stones diseases. One of the complications which the operating surgeon always fears of is bile duct injury and it includes both biliary fistula and the stricture. Biliary fistulas can be identified intraoperatively by seeing bile leak or bile staining or postoperatively by bile in the drain or biliary peritonitis. Biliary fistulas are due to injury to the duct of Luschka (occurring in 33% of population), cystic stump leak, and injury to the common bile duct or from liver bed. Similarly, biliary strictures are due to clipping or tying of the biliary trees unknowingly. Bile duct injury occurs in about 0.20% of cases.<sup>6</sup> Laparoscopic cholecystectomy had slightly higher incidence than open cholecystectomy (Lap 0 .8% to 0.15% vs open 0.2% - 0.25%).<sup>7</sup> In our study, bile duct injury incidence was 0.26% suggesting similar as the other reported cases. Now we routinely practice

the critical view of safety and other safety measure during cholecystectomy. Other complications found in our study are comparable to the literature. Although literature suggesting no difference in the complications rate in cholecystectomies done either in acute set up or electively in acute calculus cholecystitis, we are practicing the later one.

## CONCLUSION

Cholelithiasis is a common condition tackled by Department of Surgery, Lumbini Zonal Hospital and cholecystectomy is one of the common surgery performed. Postoperative complications rates were comparable to other world literature. Incidental gall bladder carcinoma was not found in our study it may be because of good case selection or low gall bladder carcinoma rate in this part of Nepal.

## ACKNOWLEDGEMENTS

We express sincere thanks to respected senior surgeon Dr Y. B. Oli, Dr. S Acharya and anaesthesia team. We also thankful to all hospital staff involved in this study.

## REFERENCES

1. Courtney M. Townsend "cholelithiasis" "Sabiston Textbook of Surgery" A Harcourt Pub. 16th edition, 2009, pp1083-1085.
2. R.C.G. Russel, N.S. Williams, C.J.K. Bulstrode, the gall bladder "cholelithiasis" "Bailey and Love's Short practice of Surgery Arnold Publications 2000, 23rd edition pp 974-979.
3. Sriram Bhat M. Gall bladder "cholelithiasis" "SRB'S Manual of Surgery" 3rd edition, Jaypee publications 2010, pp 571-598.
4. Brian W Ellis, Simon Paterson – Brown, Acute abdomen "cholecystitis" Hamilton "Bailey's Emergency Surgery, pub. Jaypee Brothers, 13th edition" 2006, pp375.
5. Michael J Jinner, Stanley W. Ashley, gall stones surgery "Maingot's Abdominal Operation. Hill pub. 11th edition".
6. Goldman Lee "Goldmann's Cecil Medicine 24th edition" Philadelphia: Elsevier Saunders, pp 1017 ISBN.
7. Eisenstein, Samuel, G, Kim AJ et al. 'cystic duct stump leaks' Archives of Surgery 143(12): pp1178-83.