International Journal Dental and Medical Sciences Research
Volume 5, Issue 1, Jan-Feb 2023 pp 722-727 www.ijdmsrjournal.com ISSN: 2582-6018

"A clinical Study and Management of Cholelithiasis in a Tertiary Care Centre"

Dr.Dilip Punnam (Assistant Professor), Dr.Afsha Shireen (senior resident)
Dr.L.Yashaswi Rao (senior resident)
Department of general surgery
Prathima Institute of medical sciences, karimnagar, Telangana.

Submitted: 15-02-2023 Accepted: 25-02-2023

ABSTRACT: Gallstones are one of the most common medical problems leading to surgical intervention throughout the world. This study intends to know its various modes of presentation, its complications, various treatment modalities and their outcome.This is a prospective study of 50 cases diagnosed to have gallstones.Patients were admitted in our institute during October 2019 to November 2021. Incidence of cholelithiasis was more in 4thdecade of life.The female to male ratio was 2.8:1.The most common complication of cholelithiasis was chronic cholecystitis (80%), followed by acute cholecystitis (14%) , CBD stone (6%), empyema of gallbladder (4%) and Perforation (2%).Comparison of laparoscopic cholecystectomy and open cholecystectomy showed that the mean operating room time was 96 min for OC and 90 min for LC. The conversion rate was 4% .The mean duration of hospital stay was 10 days for OC and 6 days for LC. The amount and period of analgesia were significantly less in the LC group.Patients recovered significantly faster after LC.Cholelithiasis is more common in 4th decade, in females with most common complication of symptomatic gallstones was chronic cholecystitis. Laparoscopic cholecystectomy is safe and effective treatment for most patients with symptomatic gallstones.

Keywords: Cholelithiasis, Laparoscopic Cholecystectomy (LC), Open cholecystectomy (OC).

I. INTRODUCTION

The prevalence of gallbladder stones varies widely in different parts of the world. In India it is estimated to be around 4%[(1).] There has been a marked increase in the incidence of the gallstone in the West during the past century.[(3)] Diagnosis of gallstone is by proper history and physical examination and combining it with appropriate investigations[(4,7,8).]Because of increased incidence of gallstones and its variable presentations in India as well as in the West, there is a great need for a study which can provide the information regarding the prevalence of the disease, various clinical presentation and management and outcomes of the cholelithiasis [(2)]

II. MATERIALS AND METHODS

About 50 consecutive cases were admitted ,examined, investigated and operated during the period of October 2019 to November 2021. Detailed history, investigations included hemogram, ECG, LFT, blood sugar, blood urea, serum creatinine, urine analysis chest x-ray, ultrasound scan of the abdomen were done[(5,6)]. Risk and complications of the condition as well as surgery was explained to the patients, consent was taken. In this study some patients under went laparoscopic cholecystectomy and some of the patients underwent open cholecystectomy because of the reasons like previous surgeries, obese patient and affordability.

Inclusion criteria:

1.Symptomatic gallstones disease with or without complications like acute and chronic cholecystitis, mucocele of the gallbladder, empyema of the gallbladder, perforation, pancreatitis, malignancy.

2.Patients with stones both in the gallbladder and the common bile duct.

Exclusion criteria:

Acalculous cholecystitis, stones primary CBD without gallstones, comorbid conditions like cardiac disease and renal failure, gallbladder stones with congenital malformations of the biliary tree or stricture of the CBD.

III. RESULTS

In this study there was an increased incidence of cholelithiasis in the 4th decade, even though no age group was exempt from the disease process. Youngest patient was 19 years and eldest 85 years. (Graph 1). 37(74%) patients were female and 13(26%) patients were male. The study shows that

International Journal Dental and Medical Sciences Research
Volume 5, Issue 1, Jan-Feb 2023 pp 722-727 www.ijdmsrjournal.com ISSN: 2582-6018

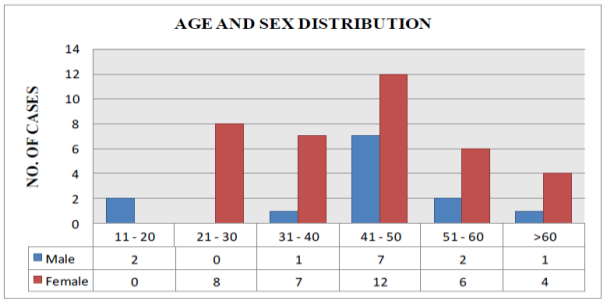
gallstones disease is common in female population. The female to male ratio is 2.84:1.(Graph 1).

Graph1: Age and Sex wise distribution of the cases included in our study.

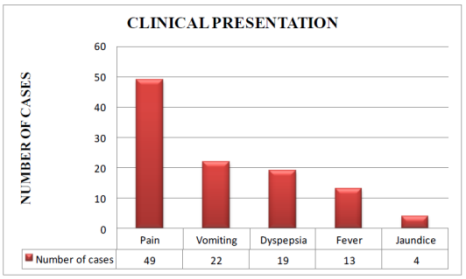
Pain was the commonest presenting symptom in 49 patients, 22 patients had nausea and vomiting, 4 patients had jaundice, dyspepsia was present in 19 patients and fever was present in 13 patients. Pain was colicky and intermittent or pricking and continuos in nature with an acute onset in 14 patients.(Graph 2).

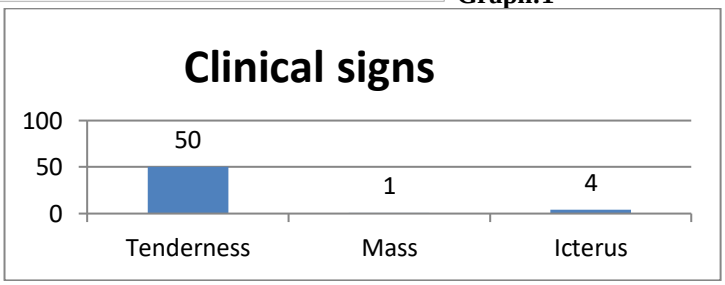
Graph2: Clinical presentation of different cases included in our study.

50 patients had tenderness in the right hypochondrium. The predominant sign ,icterus was present in 4 patients and 1 patient had mass in the right hypochondrium. Jaundice was present in 4 cases, of which 3 had cholelithiasis associated with choledocholithiasis. Out of 4 patients with jaundice 3 had high coloured urine and pale stools, and 2 patients had pruritus. (Graph 3).



Graph:2 **Graph:1**





Graph:3

Ultrasound abdomen was the main investigation carried out[6]. Isolated cholelithiasis was the commonest finding in ultrasound, 64%(32cases) had multiple stones.

Cholelithiasis with choledocholithiasis accounted for 6%(3) of cases. Dilated bile duct was seen in 6%(3) of cases and gallbladder wall thickening was seen in 16% (8) of cases.(Table 1).

Table 1: Various Ultrasound Imaging study of the cases included in our study.

Sl. No	Imaging findings	Number of cases	% of cases
1	Stones in gallbladder	50	100%
2	Solitary stone	18	36%
3	Multiple stone	32	64%
4	Gallstone with Bile duct stone	3	6%
5	Dilated bile duct	4	8%
6	Gallbladder wall thickening	8	16%
7	Mass	0	0%

International Journal Dental and Medical Sciences Research
Volume 5, Issue 1, Jan-Feb 2023 pp 722-727 www.ijdmsrjournal.com ISSN: 2582-6018

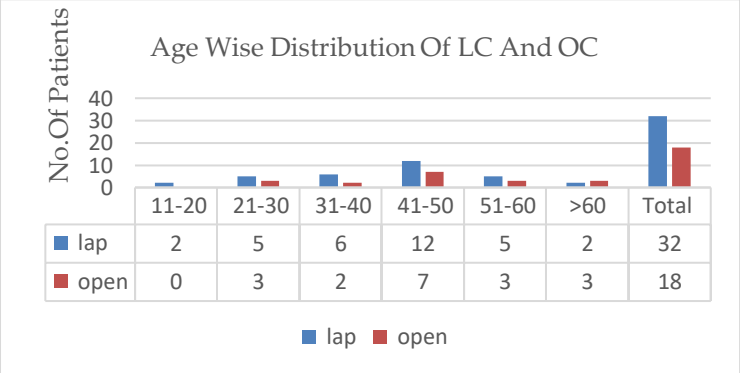
Complications of cholelithiasis observed in our study.. most of the patients had chronic cholecystitis 40(80%). 9(18%) patients presented with features of acute cholecystitis of which 2(4%) had empyema of the gallbladder confirmed during surgery.3(6%) patients had stones both in gallbladder and CBD.1 patient who presented with acute cholecystitis had perforation of the gallbladder.(Table 2)

Table-2: Various Complications of Cholelithiasis observed in our study.

Sl No	Complication	Number of Patients	% of cases
1	Acute Cholecystitis	7	14%
2	Chronic Cholecystitis	40	80%
3	Empyema of GallBladder	2	4%
4	Perforation of GallBladder	1	2%
5	CBD stone	3	6%
6	Malignancy	0	0%

Type of operation	No.of patients	%
LC	32	64
OC	14	28
OC+CBDE+TT	2	4
LC converted to OC	2	4
TOTAL	50	100

Table 3: Types of Operation in our study. CBDE: Common Bile Duct Exploration ,LC: Laparoscopic cholecystectomy, OC: Open Cholecystectomy.TT-T-tube.



Graph 4:Age wise distribution of laparoscopic and open procedures

International Journal Dental and Medical Sciences Research
Volume 5, Issue 1, Jan-Feb 2023 pp 722-727 www.ijdmsrjournal.com ISSN: 2582-6018

Lap cholecystectomy was done in 32(64%) patients while 18(36%) patients underwent open cholecystectomy The median duration of operative procedure was 96 min (60-150min) for OC and 90min (60-130min) for LC. The difference was not found to be significant[12]. The main complications noted perioperatively were bile leak, 1 patient (5.2%) in LC and 2 patients (6.4%) in OC group and stone spillage 1(5%) in LC and 1 (3%) in OC. There was no incidence of CBD injury in either group. Postoperative complications were minimal.1 patient each in laparoscopic and open had surgical site infection. 4(12%) patients in open cases had prolonged bile leak who had undergone partial cholecystectomy due to dense adhesion with the bowel loops, which were managed conservatively.(Table3) (Table 4) (Graph 4).

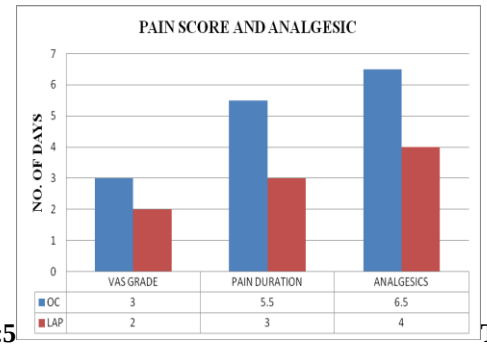
Table-4: **Operative findings and Complications**

Operativefindings	LC(N-19)	OC(N-31)	P value
operativetime (in min)Range	90(88.5) (60-130)	96(60-150)	P>0.05*(NS)
IntraOperativeComplications			P>0.05+(NS)
Bileleak-	1	2	
Stonespillage-	1	1	
CBDinjury-	0	0	
Adj.organinjury	0	0	
Conversion	2	--	
Post OperativeComplications			P>0.05+(NS)
Haemorrage-	0	0	
Woundinfection-	1	1	
Retainstone-	0	0	
Bileleak-	0	4	

*Man-whitneyu,wilcoxonranksum test.+ chisquare test

G

International Journal Dental and Medical Sciences Research
Volume 5, Issue 1, Jan-Feb 2023 pp 722-727 www.ijdmsrjournal.com ISSN: 2582-6018



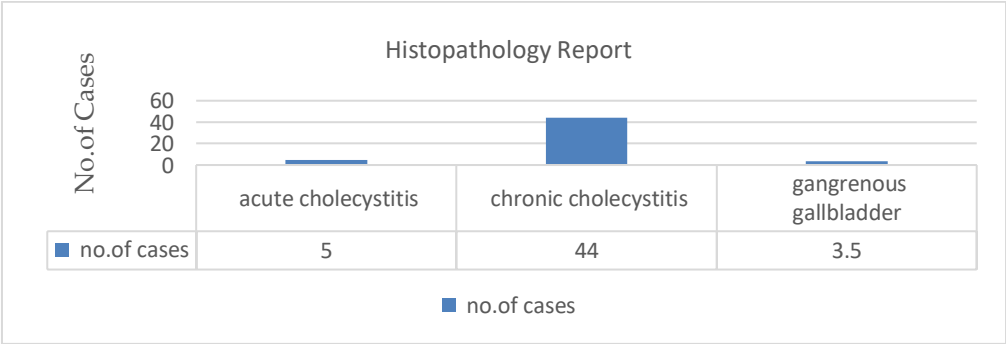
Graph:5 **Table 5:Postoperativerecovery**

POST OP RECOVRY	OC	LAP	P VALUE
Duration of hospital stay (in days)+	12 (8-16)	7.5 (5-10)	P<0.001*
Time taken to return to normal work (in days)+	13 (8-18)	10.5 (6-14)	P<0.001*

*wilcoxontest,+ median days +

Graph 5 :Pain Score and Medication
Table 5:Post Operative Recovery

The Visual analog scale (VAS) was median Grade 3 in OC group as compared to median Grade 2 in LC group. The pain was more in the initial 2 days in both groups and it lasted for median duration of 5 days in OC group compared to 3 days in LC group.The NSAID's were used for more days in OC group (median-7days) compared to LC group (median-4days).recovery was fast in LC group.(graph 4,5). In the present study 39(78%) patients were reported as having chronic cholecystitis.3 patients (6%) had acute cholecystitis and 7 (14%) patients gallbladder showed acute on chronic cholecystitis. 1(2%) had gangrenous changes. No case of malignancy was noted in our study.(Graph 6)[14]



Graph 6: Histopathology Report

IV. DISCUSSION

Most common age group affected symptomatic gallstones was the 4th decade. Sex preponderance in the favour of females(9). All of the patients presented with main complaint of pain in the right upper quadrant followed by vomiting (44%), dyspepsia (38%). The commonest site of pain was in right hypochondrium. Majorty had multiple stones in gallbladder. All cases were

managed by one or the other surgical procedure[3]. All patients who were diagnosed with chronic cholecystitis were operated electively by open or laparoscopic cholecystectomy. Patients who presented with acute severe symptoms were initially managed conservatively by nil by mouth, nasogastric tube, broad spectrum antibiotics and analgesics. Traditional cholecystectomy is an integral part of every surgical training programme and is performed by most general surgeons. The advent of laparoscopic cholecystectomy has created an excitement and a flurry of activity in the medical community.The operating time was almost equal in both the procedures, 96min(60-150min) for OC and 90min(60-130min) for LC.This study showed that morbidity rate is more with open cholecystectomy than laparoscopic cholecystectomy. Conversion was necessary in 2(4%) patients. The VAS was significantly less for LC group. The two most beneficial aspects of LC are, the short hospital stay and the rapid recovery[10,11]. The antibiotic requirement was less in LC group. The duration of hospital stay was significantly longer for OC group. The time to return to normal work was delayed for OC group.

V. CONCLUSIONS

Changing incidence in India is mainly attributed to westernization and availability of investigations such as ultrasound in urban as well as rural areas and also because of increasing affordability.More common in 4th decade and females. Laparoscopic cholecystectomy is more beneficial than open procedure in many aspects.

Funding: "This research received no external funding".

Informed Consent Statement: "Informed consent was obtained from all subjects involved in the study." "Written informed consent has been obtained from the patient(s) to publish this paper"

Conflicts of Interest "The authors declare no conflict of interest."

REFERENCES

[1]. Sir Alfred Cuschieri., ―Disorder of the biliary tract. Text book of surgery, Sir Alfred Cuschieri, 4th edition, Arnold Publication,2002,375-453.

[2]. Hermann R E., ―Biliary disease in the aging patients .Newyork, Masson, 1983, 227-232.

[3]. Moreaux J., ―Prospective study of open cholecystectomy for calculous biliary disease. Br.J.Surg, 1994,81:116-119.

[4]. William.T.L., ―Clinical manifestations and impact of gallstones disease. Am.J.Surg, 1993, Apr, Vol.165:.405.

[5]. Journal of Roentgen logy, 1989, 152:.11-17.

[6]. Hederstorm et al., ―Fatty meal provocatation monitored by ultrasonography, A method to diagnose gallbladder disease. Acta Radiological, 1988, 29:.207-216.

[7]. RansohoffDF, GracieWA .Management of patients with symptomatic gallstones: aquantitative analysis. AmJMed 1990;88:.154-160.

[8]. Festi D, Reggiani ML, Attili AF, Loria P, Pazzi P, Scaioli E et al. ―Natural history of gallstone disease: Expectant management or active treatment. Results from a population based cohort study,Department of Clinical Medicine ,University of Bologna, Bologna, Italy. J GastroenterolHepatol. 2010 Apr;25 (4):651-2.

[9]. Joseph A Karan., Goel J Rose., ―Cholelethiasis and cholecystectomy. Maingot's abdominal operation, Michel J zynnel,s ey-mourI Schwartz, Harold ellis, Mcgrawhill Pub. 10th edition, Vol 2, 2001,1717-1738.

[10]. ational Centerfor Health Statistics .Detailed diagnoses and procedures ,national hospital discharge survey1990. No.Hyattsville,Md.: Public Health Service,1992. (DHHS publication nno. (PHS) 92-1774.)

[11]. Morgenstern.L,Wong.L,Berci.G.―Twelve hundred open cholecystectomies before the laparoscopic era. A standard for comparision Arch Surg,1992,127:.400-403.

[12]. Maj. Alok Sharma., ―Towards a safer cholecystectomy-the fundus to por taapproach.Indian journa of surgery, june1997,.141-145.

[13]. ComitaloJB.Laparoscopic cholecystectomy and newer techniques of gall bladder removal. JSLS2012;16(3):406–12.

[14]. DixFP,Bruce IA, KrypcyzkA, RaviS. Aselective approach to histopathology of the gallbladder is justifiable. The Surgeon 2008;1(4):233-35.