



## A CLINICAL STUDY: INCIDENCE, AGE SEX, CLINICAL FEATURES AND MANAGEMENT OF CHOLELITHIASIS

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### ABSTRACT

**Background:** Cholelithiasis is a chronic recurrent disease of the hepatobiliary system. Impaired metabolism of cholesterol, bile acids and bilirubin are characterized by gallstone formation. The incidence of cholelithiasis varies not only from country to country but also from place to place in our country. Even in our country, the incidence of gall bladder disease differs in various regions. The present study is undertaken to find out the incidence in kurnool general hospital and also to study various aspects of the disease like age, sex, clinical features and management of cholelithiasis. To study the modes of presentation of gallstones, various treatment modalities, their outcome and complications and chemical analysis of gallstones. **Methods:** This a clinical study of 90 cases of Cholelithiasis treated in Government General Hospital, Kurnool in a period of 2.5yrs from may 2010 to october 2012. Only cases with cholelithiasis are taken into consideration. IN 90 patients fulfilling the inclusion criteria selected for the study. Clinical symptoms were noted according to clinical history of the patients. The ultrasonography scanning of the abdomen performed, open/laparoscopic cholecystectomy was done. **Results:** The mean age of the patients was 43.56 years with a male-female ratio of 0.5:1. Mixed type of diet, and multiple gallbladder calculi of mixed type was observed. Wound infection was the commonest complication in open cholecystectomy group, and the mean hospital stay was significantly more in this group.

**KEYWORDS :** Cholelithiasis, Gallstones, Cholecystectomy, Laparoscopy

### INTRODUCTION:

Gallstone disease remains one of the major causes of abdominal morbidity and mortality throughout the world.

Nowadays, gallbladder disease is a frequent problem in developed countries, representing a major health problem. Gallstone disease is a chronic recurrent hepatobiliary disease, the basis for which is the impaired metabolism of cholesterol, bilirubin and bile acids, which is characterized by the formation of gallstones in the hepatic bile duct, common bile duct, or gallbladder. Incidence in India partially attributed to widespread use of ultrasonography (USG) in the last two decades but changing socio-economic structure and changes in various other epidemiological factors including diet may also be responsible. In the present study apart from studying the epidemiology, i.e., clinical presentation, diagnostic tools and complications after surgery in population attending Kurnool medical college and Govt. General Hospital Kurnool. Endoscopic retrograde cholangiography (in cases of suspected CBD calculus) was done prior to surgical intervention. Open cholecystectomy or laparoscopic cholecystectomy was done

### METHODS:

This was a hospital based, "cohort" study. The patients reporting to outdoor or emergency of KURNOOL MEDICAL COLLEGE KURNOOL AP, with symptomatic stones dyspepsia, acute or chronic cholecystitis, pancreatitis, clinical jaundice, with USG abdomen confirming gall bladder calculus Inclusion & exclusion criterion.

The patients of "cholelithiasis" with gallstone alone or in common bile duct (CBD). Stones diagnosed by ultrasound are included in the study, and patients who did not give consent to join the study or diagnostic dilemma for, e.g., acalculous cholecystitis or with primary CBD stones. i.e., no calculus in gall bladder were excluded from the study.

For stone analysis Considering the cost of analysis a representative sample of stones removed during surgical management was selected and chemically analyzed. The selection was done by random selection method (computer generated).

### Study factors

A detailed clinical history and physical examination was carried out and recorded in a standard proforma which included demographic factors (age and gender), clinical presentation factors, (dyspepsia, acute upper abdomen pain chronic upper abdomen pain, jaundice, nausea/vomiting) and a standardized clinical examination was done which included general physical examination and systemic examination specially looking for tenderness in right hypochondrium,

palpable lump in the right hypochondrium and hepatomegaly. The investigations include complete blood count, random blood sugar, liver function test, routine urine examination and USG abdomen. Magnetic resonance cholangiopancreatography (with dilated CBD >7 mm and raised alkaline phosphatase) and endoscopic retrograde cholangiography (in cases of suspected CBD calculus) was done prior to surgical intervention. Open cholecystectomy or laparoscopic cholecystectomy was done.

### Ethical issue

Ethical clearance was obtained from Institutional Ethical Committee of the Institute.

### Statistical analysis

The data was presented in tabular form using tables, pie and bar diagrams for descriptive statistics categorical variable were analyzed using Fisher's exact test and Chi-square test. Comparison of values of biochemical analysis was done using Kruskal-Wallis one-way ANOVA.

### RESULTS:

#### Age and gender

A total of 90 patients were enrolled prospectively and the following results recorded.

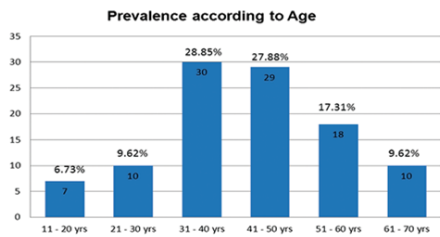
The gallstones were most common in third to fifth decade, accounting for more than half of all cases (71.66%). The mean age of patients with gallstones was 40 years (Figure 1). In total of 90 patients, 35 were males and the rest 55 females. This shows that cholelithiasis is predominant in the female population with a male-female ratio of 1.5:1 (Table 1). Gender distribution. Sex N (%) Male 35, Female 55, Total 90.

### AGE DISTRIBUTION:

**Table 4: Table showing the age distribution**

Age	Present series	Vijayapaletal series		North American series	
Below 10 years	Nil	-	-	2	1%
10-20 years	2	2.22%	3	4%	25
21-30 years	8	8.88%	7	9.3%	14
31-40 years	30	33.33%	26	34.3%	30
41-50 years	35	38.33%	26	34.3%	28
51- 60 years	10	11.11%	10	13.3%	90
Above 60 years	5	5.55%	3	4%	11

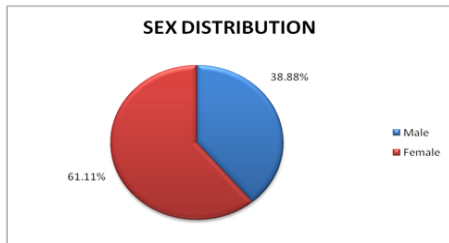
**Graph 2: Graph showing the age distribution**



**SEX DISTRIBUTION :**

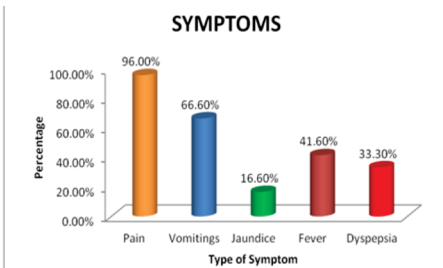
**Table 5 : Table showing the sex distribution**

Sex	Present series	Vijayapaletal series	North American series
Male	35 38.88%	22 29.3%	64 32%
Female	55 61.11%	53 70.7%	136 68%



**Clinical presentation**

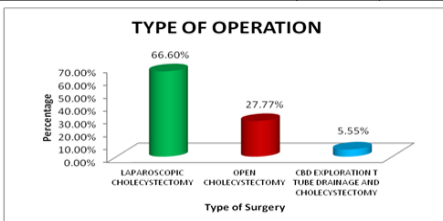
Patients presented with pain in the upper abdomen in 96% ,41.6 % patients had FEVER. 66.6% presented with VOMITING, 16.6% with JAUNDICE, tenderness in 65%.



**Operative management**

All 90 patients underwent surgery. About 60 patients had laparoscopic cholecystectomy and 25 patients underwent open cholecystectomy. A total of 5 patients had CBD calculus, of which all patients underwent open cholecystectomy with CBD. exploration

S. NO	TYPE OF SURGERY	NO.OF CASES	PERCENTAGE
1	Laparoscopic Cholecystectomy	60	66.6%
2	Open Cholecystectomy	25	27.77%
3	CBD Exploration T Tube Drainage And Cholecystectomy	5	5.55%



**POST OPERATIVE COMPLICATION :**

**Table 9 : Table showing postoperative complications.**

Type of organism	Number	Percentage
Wound infections	8	8.88%
Respiratory tract infection	6	6.66%
Biliary leak	4	4.44%

**DISCUSSION:**

In the present study, 61.11%(55 out of 90) cases were females, while the rest 38.88% (35 out of 90) cases were males. VIJAYA Pal et al series showed 70.7% were female; 29.3% were male. Similar sex preponderance in favour of females were observed by Tamhankar et

al. A study carried out by Sharma showed that 30% were male and 70% were female<sup>13</sup> and ThamilSelvi et al. showed 20.5% males and 79.5% females were patients of cholelithiasis. In our series the majority were in the age group 31 – 50 years and constituted 71.66% while in the North American series the majority of the patients were in the age group of 51 – 60 years and in Vijaya pa et al series majority of patients were in 51 – 60 years and constituted 68.8%. Pain right upper abdomen was the most common symptom present in 96% followed by vomiting in 66.6%, Most common complication was wound infection in 8.88% followed by respiratory infection in 6.66%. The most common modality of surgery is lap cholecystectomy in 66% followed by open cholecystectomy in 27.77%.

**CONCLUSION**

90 cases of Cholelithiasis were analysed and following conclusions were drawn from this series. The incidence of cholelithiasis was low compared to the North American series. The incidence was found to be highest in the 4th and 5th decades of life. The sex incidence was found to be slightly higher in females. Ultrasound scan was in the main stay of diagnosis. The incidence of choledocholithiasis is negligible. No mortality occurred in the present series and the incidence of post operative complications were negligible showing that most of the patients tolerate these various procedures well provided that there is proper preoperative preparation. The incidence of carcinoma is 0%, Bio chemical analysis of the stones revealed that most of them were mixed type of stones.

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