



Surgery

"CLINICAL STUDY AND MANAGEMENT OF CHOLELITHIASIS"

Dr.M.Krishna Naik*

Professor, Dept. of General Surgery, Kurnool Medical College, Kurnool

*Corresponding Author

Dr.M.Jayanth

Senior Resident, Dept. of General Surgery, Kurnool Medical College, Kurnool

ABSTRACT

Cholelithiasis are described as formation of stones in the gall bladder. The Incidence of cholelithiasis is 10 per 1000 Subjects per year and the prevalence is 4.3%.

This prospective analysis is an attempt to study the incidence of Cholelithiasis in our hospital, various modes of presentation and various techniques used in the treatment among our surgeons and determine which technique has the best outcome, finally to study the factors which have a bearing on the safe treatment of cholelithiasis in 100 patients admitted in the Department of General surgery in Government General Hospital, Kurnool Medical College, Kurnool.

KEYWORDS : Cholelithiasis, Pain abdomen, cholecystectomy.

INTRODUCTION

The disease is seen at all ages including children although it is more common in fourth, fifth and sixth decade of life and in females. Female sex, obesity, pregnancy, fatty foods, Crohn's disease, terminal ileal resection, gastric surgery, hereditary spherocytosis, sickle cell disease, thalassemia are all associated with an increased risk of developing gall stones.

Complications of gallstone includes biliary colic, acute/chronic cholecystitis, empyema, mucocele, obstructive jaundice, cholangitis, pancreatitis, gallstone ileus. Gallstones related complications arise at a rate of approximately 1% per year in asymptomatic patients and 2% per year in patients who already have symptoms, thus making cholecystectomy one of the most common operations performed by general surgeons.

OBJECTIVES

This study is aimed to analyse the following aspects

1. To study the various modes of clinical presentation and treatment of cholelithiasis in Government General Hospital, Kurnool
2. To analyse the prevalence according to age, types of stones and sex.

PATIENTS AND METHODS

PLACE OF STUDY : Government General Hospital, Kurnool Medical College, Kurnool

STUDY DESIGN : Prospective study

STUDY PERIOD : 2 YEARS, September 2014 to September 2016

TOTAL NO. OF PATIENTS STUDIED : 100

Accurate history was elicited from the patients including the operative risks factors and a thorough physical examination was done. Biochemical investigations, including RBS, urea, creatinine, liver function tests were done in all patients. All the patients underwent ultrasound of the hepatobiliary system preoperatively.

Patients with clearcut signs and symptoms of gall stones were managed by either open/laparoscopic cholecystectomy.

Data was collected prospectively and included patient's demographics, laboratory results, operative findings, requirement for conversion to open cholecystectomy, operative complications and length of hospital stay along with post-operative complications if any.

After removal of sutures the patients were discharged from the hospital, further advice to come for follow up at 6weeks and 12weeks. Those who came for follow up were examined in detail. The histopathology of the specimen was also noted.

RESULTS

Hundred patients with cholelithiasis, who were treated at Government General Hospital, Kurnool Medical College, Kurnool were included in the study.

The maximum age incidence was in the age group of 41-50 years with 24 patients.(24%)

Out of a total of 100 patients included in the study, 71(71%) were females and 29(29%) were males, thus female to male ratio is ~3:1

Pain in the right upper abdomen was present in 100 patients (100%). The other complaints seen were vomiting (56%), fever (28%) and jaundice (15%). Diabetes mellitus was present in 16 patients (16%).

TABLE 1 : CLINICAL SYMPTOMS

	Pain abdomen		Vomiting		Jaundice		Fever	
	No	Percent	No	Percent	No.	Percent	No.	Percent
Absent	0	0	44	44.0	85	85.0	72	72.0
Present	100	100	56	56.0	15	15.0	28	28.0
Total	100	100.0	100	100.0	100	100.0	100	100.0

Analysis of gallstones revealed 61 patients with mixed stones, 20 cholesterol stones and 19 patients had pigmented stones.

Out of 100 cholelithiasis patients, 16 patients (16%) had associated common bile duct stones.

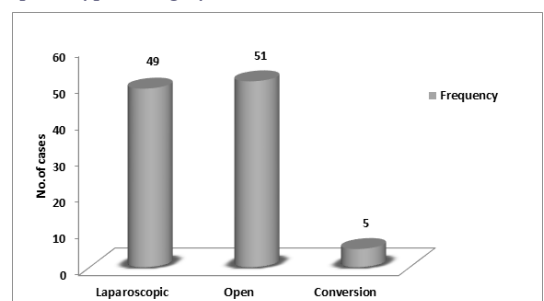
Table 2: INCIDENCE OF COMMON BILE DUCT STONES WITH CHOLELITHIASIS

	Frequency	Percent
Absent	84	84.0
Present	16	16.0
Total	100	100.0

Out of 100 cholelithiasis patients, 16 patients had choledocholithiasis, 6 patients had acute cholecystitis, 3 patients had mucocele, 3 patients had empyema, 3 patients had gallstone pancreatitis, one patient had cholangitis, and one patient had perforation of the gallbladder.

All the patients in the present series underwent surgery. 49 (49%) underwent Laparoscopic cholecystectomy. Open cholecystectomy was done in 51 patients (51%), and five patients underwent conversion from laparoscopic to open cholecystectomy.

Graph 1 : Type of surgery



In patients who underwent open surgery, the mean hospital stay was 7 days. The patients of laparoscopic group had a mean hospital stay of 3 days.

TABLE 3 : HOSPITAL STAY

TYPE OF SURGERY	HOSPITAL STAY
Open	7 Days
Laparoscopic	3 Days

Figure 1: Cholesterol stones



Figure 2: Cholecystectomy specimen showing cholesterol stone

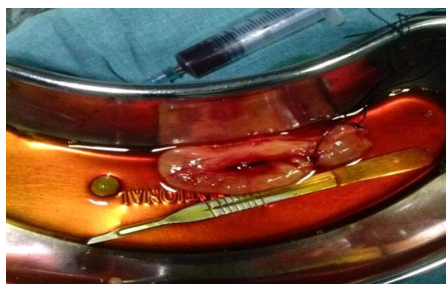


Figure 3: Cholecystectomy specimen showing mixed stones

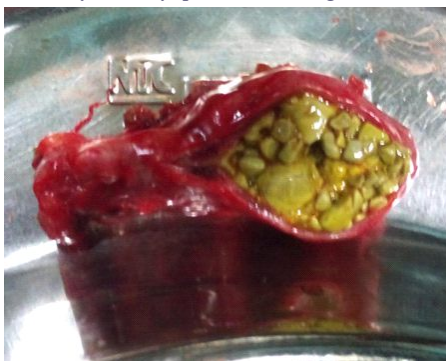


Figure 4: Cholecystectomy specimen showing black pigment stones



DISCUSSION AND ANALYSIS

Cholelithiasis is the medical term for gallstone disease. Gallstones are concretions that form in the biliary tract, usually in the gallbladder. Gall stone disease remains one of the major cause of abdominal morbidity and mortality throughout the world. Now-a-days Gall bladder disease is a frequent disease in developed countries representing a major health problem.

In the present study , the epidemiology , demographic patterns , clinical presentation, diagnostic tools and complications after surgery are studied in the patients attending the Government General Hospital , Kurnool.

The present study showed the maximum incidence of cholelithiasis in the age group of 41-50 years (24%). A population study on the prevalence of cholelithiasis conducted by Barbara et al., in the town of Sirmione , Italy also showed similar results.¹

In the present study, out of a total of 100 patients in the period of study , 71 (71%) were females and 29 (29%) were males. A similar study conducted by Sharma et al., showed that 30% were males and 70 % were females.² The underlying mechanism is female sex hormones; parity, oral contraceptive use and estrogen replacement therapy are established risk factors for cholesterol gallstone formation.

In the present study, pain in the Right upper abdomen was present in all the patients. (100%) This finding is in agreement with a multicentric Italian study on the clinical manifestations of gall stone disease done by Festi et al.,³

There are three types of gallstones (i) Pure cholesterol stones, which contain at least 90% cholesterol, (ii) pigment stones either brown or black, which contain at least 90% bilirubin and (iii) mixed composition stones, which contain varying proportions of cholesterol, bilirubin and other substances such as calcium carbonate, calcium phosphate and calcium palmitate.

In the present study 61% of patients had mixed gallstones and 20% of patient had cholesterol stones and 19% of patients had pigmented stones, which was comparable to C.S.Pundir study, which had 58%, 20% and 22% respectively.⁴

A study done by Lee JY et al., in Europe and North America , showed a preponderance of cholesterol rich gall stones⁵. This has been attributed to obesity and diets containing a high proportion of refined Carbohydrates and fats in that region.

Less commonly, gallstones can become lodged in the common bile duct (choledocholithiasis), sometimes with obstruction of the common bile duct and symptoms of cholestasis.

Previous studies showed that 10-14% of patients undergoing a cholecystectomy for symptomatic gall stones will be found to have choledocholithiasis at some point during their treatment.⁶

In the present study 16% of patients had common bile duct stones with cholelithiasis.

Cholecystectomy (gallbladder removal) has a 99% chance of eliminating the recurrence of cholelithiasis. Surgery is only indicated in symptomatic patients.

Open cholecystectomy was formerly the gold standard of treatment for gallstones, until the advent of laparoscopic cholecystectomy.

The laparoscopic procedure requires more operating time than the open procedure, but usually less time in the hospital postoperatively; postoperative pain is greatly reduced, and the patients can usually return to work early, i.e., in one to 2 weeks, as compared with 4-6 weeks after open cholecystectomy.

In the present study, 49% of patients underwent Laparoscopic cholecystectomy and 51% underwent Open cholecystectomy of which 5% were converted from Laparoscopy to Open.

This finding is almost comparable to Bansal et al., study.⁷

CONCLUSION

Gallstones are the most common biliary pathology and it is one of the

most common problems affecting the digestive tract. Gallstones are more common in middle aged women.

Surgery is the best cost effective modality of management for cholelithiasis. Laparoscopic cholecystectomy is a considerable advancement in the treatment of the gallstone disease. The advantages of laparoscopic cholecystectomy are:

- 1) Technically, the dissection of the cystic artery and cystic duct is very precise.
- 2) It is associated with less chances of wound infection.
- 3) The duration of hospital stay is less.

Conversion to laparotomy, in difficult cases involving inflammatory changes, aberrant anatomy or excessive bleeding, is not be considered as a failure but rather as good surgical decision in order to ensure the patients safety.

Mixed type of stones are most common.

It is estimated that 10-20 percent of patients with gall stones develop choledochal stones, the incidence steeply rising after the age of 50-60 years.

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