

## Descriptive study on the clinical profile of patients with cholelithiasis

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### Abstract

In India, the incidence of the disease is on the increase due to the change in diet patterns and the greater awareness of the problems. A gallstones survey limited to railroad workers conducted in 1966 utilizing oral cholecystography had suggested that gallbladder stones occurred 7 times more commonly in North Indian workers than in South Indian workers. Patients were selected according to inclusion and exclusion criteria after taking informed consent and reassuring them keeping confidentiality of their data. In all the 200 patients, patients diagnosed as cholelithiasis and who underwent laparoscopiccholecystectomyor converted to open-cholecystectomywere included in the study. After explaining complete details of the procedure and complications to the patients, the surgery was performed under general anesthesia. In our study out of 200 patients, majority of patients, both male and female had pain as their chief complaints with total percentage of (62%).Next to pain majority of patients including males (10) and females (16) Nausea as major complaint constituting (13%) of total average. Dyspepsia 21 i.e., (10.50%), pain + nausea 15 i.e., (7.50%) and pain + jaundice 14(7%) as their chief complaints in decreasing order.

**Keywords:** Cholelithiasis, laparoscopiccholecystectomy, gallstones

### Introduction

Gallstone disease known as cholelithiasis is one of the most common digestive surgical disorder. The introduction of gallbladder disease to mankind dates back to the 21st Egyptian Dynasty (1085-945 BC), when gall stones were discovered in the mummy of priestess of Amen. The highest incidence is seen in Sweden, where 50% of the people have gall stones by the age of 70 years<sup>[1]</sup>.

Cholelithiasis has worldwide prevalence, with estimated incidence of 1.39/100 person/year, varying little between populations. It is common in females and in advanced age. In the US, the third evaluation of the National Health and Nutrition Examination Survey estimated that 6.3 million men and 14.2 million women aged 20-74 years have cholelithiasis, of which 1-3% become symptomatic<sup>[2]</sup>.

In India, the incidence of the disease is on the increase due to the change in diet patterns and the greater awareness of the problems. A gallstones survey limited to railroad workers conducted in 1966 utilizing oral cholecystography had suggested that gallbladder stones occurred 7 times more commonly in North Indian workers than in South Indian workers. Indian studies have revealed a prevalence of 6.12%, being more common in women (9.6%) than men (3.1%)<sup>[3]</sup>.

With an estimated 1.8 million ambulatory care visits each year, gallstone disease is a leading

cause for hospital admissions related to gastrointestinal problems in United States.

Patients with gallstones typically complain of right Hypochondrium or epigastric pain, which may radiate to the back. Other symptoms include dyspepsia, flatulence, food intolerance particularly to fats<sup>[4]</sup>.

An abdominal ultrasound is the standard diagnostic test for gallstones. To confirm the preoperative diagnosis, abdominal ultrasonography is the most frequently used investigation, being diagnostic method with relative low cost, free of ionizing radiation, non-invasive and practical realization. Ultrasonography has estimated sensitivity and specificity of 84% and 99%, being gold-standard for the diagnosis of extra hepatic biliary diseases, detecting gallstones of 1.5-2 mm in diameter.

Intravenous cholangiography and oral cholecystography were the imaging tests of choice for diagnosing acute cholecystitis until they were supplanted by transabdominal ultrasonography in the early 1980s. More recently it has been recognized that ultrasonography is very accurate for diagnosing cholelithiasis but less so for diagnosing cholecystitis, with reported positive predictive values (PPV) of 37%-88% and negative predictive values (NPV) of 38%-86%<sup>[5]</sup>.

On the basis of ultrasound findings, surgeons can select the cases appropriate for their skills aiming at reducing operative complications and minimizing the waste of operating available time. Preoperative ultrasonography is valuable in determining surgical difficulties or even chance to conversion<sup>[6]</sup>. The wall thickness and the diameter of the common bile duct may indicate greater difficulties in some steps of the operation.

The advent of surgical predictability brings benefits such as the recommendation for experienced surgical team and conversion to laparotomy.

## **Methodology**

### **Study area**

This study was undertaken in Department of General Surgery.

### **Study design**

Prospective and descriptive study.

### **Study population**

This is prospective and descriptive study of patients who were admitted in General Surgery ward and diagnosed to have cholelithiasis by ultrasound findings.

### **Inclusion criteria**

1. Patients who were diagnosed as a case of Cholelithiasis.
2. Patients who were willing to be included in the study.
3. Patients who were fit for General Anesthesia for Laparoscopic cholecystectomy.

### **Exclusion criteria**

1. Patients who were not willing to take part in study.
2. Known case of viral hepatitis, alcoholic liver disease, drug related Hepatitis, metabolic liver disease and pancreatitis.
3. Stone or other pathology of common bile duct<sup>[62]</sup>.
4. Patients who had undergone previous upper abdominal surgeries<sup>[52]</sup>.
5. Patients who did not come for regular follow up.

### **Sample size**

Sample size for study was 200, which is justified after reviewing similar studies done in Indian population.

### **Data collection**

Patients were selected according to inclusion and exclusion criteria after taking informed

consent and reassuring them keeping confidentiality of their data. In all the 200 patients, patients diagnosed as cholelithiasis and who underwent laparoscopiccholecystectomyorconvertedtoopen-cholecystectomywere included in the study. After explaining complete details of the procedure and complications to the patients, the surgery was performed under general anesthesia.

## Results

**Table 1:** Age-wise distribution (n=200)

Age(years)	≤20	21-40	41-60	61-80	Total
Number of cases	15	135	46	4	200
Percentage	7.50%	67.50%	23.00%	2.00%	100%

In our study, out of 200 patients number of patients ranged from ≤20 i.e., 15 (7.50%), patients belonged to the age group 21-40 years i.e., 135 (67.50%), in the age group of 41-60 i.e., 46 (23%), the patients belonged to the age group of 61-80 i.e., 4 (2%). Maximum (67.50%) patients were from age group of 21-40years.

In our study minimum age of presentation was 14 years where as maximum age was 74 years with maximum percentage of age group between 21-40 years with 67.50%(n=200).

In our study minimum duration of operation was 25minutes and maximum being 90minute with mean duration of operation 46.51minutes with standard deviation of 13.41.

**Table 2:** Sex distribution (n=200)

Sex Distribution	Count	Percentage
Male	59	29.50%
Female	141	70.50%
Total	200	100%

In our study, out of 200 population 141 were females i.e., (70.50%), where as males were 59 i.e., (29.50%).

**Table 3:** Clinical Symptoms according to sex wise distribution (n=200)

ClinicalSymptoms	Dyspepsia		Nausea		Pain		Pain +Jaundice		Pain + nausea	
	Count	%	Count	%	Count	%	Count	%	Count	%
Male	6	3.00%	10	5.00%	39	19.50%	1	0.50%	3	1.50%
Female	15	7.50%	16	8.00%	85	42.50%	13	6.50%	12	6.00%
Total	21	10.50%	26	13%	124	62%	14	7.00%	15	7.50%

In our study out of 200 patients, majority of patients, both male and female had pain as their chief complaints with total percentage of (62%). Next to pain majority of patients including males (10) and females (16) Nausea as major complaint constituting (13%) of total average. Dyspepsia 21 i.e., (10.50%), pain + nausea 15 i.e., (7.50%) and pain + jaundice 14(7%) as their chief complaints in decreasing order.

**Table 4:** Duration of symptoms in relation to palpable and non-palpable gallbladder on clinical examination.(n=200)

Gall Bladder (n=200)	Duration of Symptoms				Total		P-value
	< 2 months		>2 months		N	%	
	Count	%	Count	%			
Palpable (n=15)	11	5.50%	4	2.0%	15	7.50%	0.014

Non-Palpable(n=185)	73	36.50%	112	56.0%	185	92.50%	
Total(n=200)	84	42%	116	58%	200	100%	

P-value is 0.014 i.e.,  $P < 0.05$

In our study, out of 200 patients, the difference between palpable (15 i.e., 7.50%) & non palpable (185 i.e., 92.50%) in relation to duration of symptoms are statistically significant, ( $p=0.001$ ,  $p<0.05$ ) by Fisher's exact probability test.

## Discussion

Cholelithiasis is a most common gastro intestinal tract pathology that will be encountered by a General Surgeon. In 1420 first gall stone account was given by a pathologist Antonio Benivieni, in a woman who died with pain abdomen. In North India, gallstones are seven times more common with all over incidence of about 2.29%.

In our study most commonly affected age group by cholelithiasis was 20-40 years (67.50%).

In our study, mean age of presentation with cholelithiasis was (32.89) with standard deviation of (10.14), similar finding were observed in study conducted by Awad AJ<sup>[7]</sup> with (35) as mean age, (41.30) in Lonare R<sup>[8]</sup>, Yadav JS<sup>[9]</sup>(39.8).

In our study, most commonly affected sex was females (70.50%), similar finding noted in the study done by Awad AJ<sup>[7]</sup>(Male: female=1:4), Kumar K<sup>[10]</sup>(females 65.5%), Narang S<sup>[11]</sup>(females 88%), yadav JS<sup>[9]</sup>(Females > males) but in study done by Prakash V<sup>[12]</sup>(males 68%).

In our study, most common mode of clinical presentation was pain in right Hypochondrium (62%) followed by Nausea(13%), Dyspepsia (10.50%), Pain along with Nausea (7.5%) and least mode of presentation being Pain along with Jaundice (7%). The results of the present study were also comparable to the study done by Sharma A<sup>[13]</sup>(Pain 60.6%).

In our study, patients with palpable gallbladder who had duration of symptoms <2 months (5.50%) and had difficulty in operation. Similar studies showing Nayak G<sup>[14]</sup>(11.4% palpable), Yadav JS<sup>[9]</sup>(palpable gallbladder had difficult operation).

## Conclusion

- Females are most commonly affected by cholelithiasis than males.
- Most of the patients present with pain as their chief complaint.
- Most commonly affected age group is between 21-40 years.
- Nausea and pain along with jaundice are good clinical parameters for prediction of difficulties in laparoscopic cholecystectomy.

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