



**ORIGINAL RESEARCH PAPER**

**General Surgery**

**Observation of Spectrum of gallbladder disease in tertiary care hospital in Jharkhand**

**KEY WORDS:** Gall-bladder, cholecystitis, carcinoma

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**ABSTRACT**

**Aim :** To observe the spectrum of Gall-Bladder disease in tertiary care hospital in Jharkhand.

**Material and method :** The present study comprised of 272 specimen of surgically removed gall-bladder irrespective of clinical or ultrasonological diagnosis. The diagnosis was made on the basis of detailed history, through clinical examination, ultrasonological examination and histopathological examination.

**Result :** In our study we included 276 cases in which 4 cases were inoperable and remaining 272 cases were treated with cholecystectomy. we found that chronic cholecystitis (63.9%) was the most common gallbladder disease followed by acute cholecystitis and 8.6% cases were of carcinoma gall bladder.

**Conclusion:** Chronic cholecystitis (63.9%) was the most common gallbladder disease followed by acute cholecystitis(16.8%).

**Introduction :**

Gall bladder is the most important and major organ of the biliary tract to be involved in a disease process. The gall bladder along with other parts of biliary tract has been the seat of various disorders from a long time. It is the fifth most common gastrointestinal malignancy following colon, pancreas, stomach and esophagus<sup>[1]</sup>. Helminthic infection is a major cause of biliary disease in developing countries of Asia, South Africa and Latin America<sup>[2]</sup>. In surgical practice cholecystitis, especially calculus cholecystitis, dominate all other biliary tract diseases. Gall stone are one of the most common disorder of the gastrointestinal tract affecting 10% of population in western society<sup>[3,4]</sup>. Acute cholecystitis develop in 1-3% of patient with symptomatic gall stones<sup>[5]</sup>. The importance of calculus affection of gall bladder is further accentuated due to the fact that it may bear a possible relation to a neoplastic change in gall bladder.

Gall stones have been considered as an etiogenic factor for a pretty long time for carcinoma gall bladder. Other pathogenic conditions of the gall bladder presumably associated with the development of carcinoma are cholecystoentric fistula, Porcelain gall bladder and adenoma<sup>[6]</sup>. The incidence of carcinoma gall bladder has been a subject of great controversy<sup>[7]</sup>. Incidence of gall bladder carcinoma in American population has been reported to be as high as 10%. Graham, et al<sup>[8]</sup> has reported the incidence to be 8-10 of all malignancies of women. Other American workers also report higher incidence ( Adson et al)<sup>[9]</sup>. Carcinoma of gall bladder is found more commonly in women than men. The average age of patients of gall bladder carcinoma for men in 67 years and for women is 61 years<sup>[1]</sup>.

Due to increasing incidence of gallbladder disease in this region, this study has been undertaken in the tribal dominated state of Jharkhand at RIMS.

**Aims and objectives :**

1. To observe the spectrum of gall bladder disease in tertiary care hospital in Jharkhand.

**METHODOLOGY :**

The present series of work entitled "Observation of spectrum of gall bladder disease in tertiary care hospital in Jharkhand has been conducted in the Department of Surgery, RIMS, Ranchi from September 2012 to September 2014. Over 276 cases of gall bladder diseases were studied, out of which 4 cases were diagnosed as inoperable carcinoma of gall bladder. The materials for the study comprised of surgically removed gall-bladder irrespective of clinical or ultrasonological diagnosis. The diagnosis was made on the basis of detailed history, thorough clinical examination, ultrasonological investigation and histopathological

examination. The removed gall-bladders were received in glass containers filled with formaldehyde solution and were carried to department of pathology for histological diagnosis. The histological diagnosis was done by pathology department.

**Study area:** The study was conducted in the Department of surgery, RIMS, Ranchi.

**Study population :** Subjects were selected from those attending surgery OPD and admitted in surgery ward in RIMS. This study was carried out from September 2012 to September 2014. This study was approved by the Ethical Committee of RIMS, Ranchi.

**Statistical Analysis:** All data collected and their distribution as per age, gender and diagnosis was tabulated, and their percentage was calculated.

**RESULT:**

Maximum number (29%) of patients of gall-bladder diseases belonged to the age group of 35-45 years followed by the age group of 25 to 34 years (26%). Patients of below 25 years aged were least in number (1.8%). There were 221 females and 55 males with male:female 1:4 as shown in {table no- I}. Right hypochondrial pain was the most common symptom which was present in 245 cases (92%) and right hypochondrium tenderness was the most common sign in 230 cases (83.4%). Hepatomegaly and jaundice was not so common and were found in 55(19.1%) and 39(13%) cases respectively.

Ultrasonographically small contracted gall-bladders were detected in 204 cases (74%) whereas acoustic shadows in gall-bladder were seen in 59 cases (21.6%), sludge was present in 104 cases (38 %). Intraluminal growth in gall-bladder was seen in 16 cases (6.5%), thickened wall of gall-bladder was detected in 32 cases (4.7%). Bile duct was dilated in 35 cases out of which 9 cases showed acoustic shadow. Nodules of varying sizes were detected in 9 cases (3.4%) whereas ascites was present in only 4 cases (1.4%).

Chronic cholecystitis was the most common gall-bladder disease which was found in 178 cases (65.3%) out of which 174 cases(63.9%) were of calculous variety. The next common gall-bladder disease in the present series was acute cholecystitis which was observed in 46 cases (16.8%) out of which 41(15.07%) cases were associated with gall stones. Stones were present in 98% cases of chronic cholecystitis and in 89% cases of acute cholecystitis. Carcinoma gall-bladder was detected in 24 cases (8.6%) out of which 22 cases (91%) were associated with stones. Mucocele, empyema and cholesterosis was found in 14, 4 and 6 cases respectively (5.2%, 1.4% and 2.2%). {table-II}

**DISCUSSION:** In majority of cases (197) which constitutes 71% of all cases were above 35 years of age. The maximum incidence (29%) was in the age group of 35-44 years. The overall incidence of gallbladder diseases in patients under 35 years of age was 28% (77 cases). The youngest patient of this series was a girl aged 19 years. This present findings are in accordance with observations of other workers (Fosburg et al)<sup>[10]</sup>. Colock et al<sup>[11]</sup> had found average age in their series of 1356 cases to be 51.6 years. The maximum numbers of cases in their series were in 51-60 years of age (34.5%) as compared to 29% (maximum cases 33) in 35-44 years age group in the present series.[Table no-I].The average lower age in this series as compared to some western countries may be attributed most probably to early marriage and child bearing, frequent pregnancies, and malnutrition among the general Indian population. The sex incidence of gall-bladder diseases of this series was 80 percent for females and 20 percent for males. This gives the male to female ratio as 1:4. Thus the male female ratio observed in the present series is comparable to the observations of Glenn et al<sup>[12]</sup> who reported male to female ratio as 1:4.

The ultrasonography findings reveals acoustic shadow in majority of cases (242 cases, 87.8%) of gall-bladder suggestive of cholelithiasis. Out of these 242 cases, gall bladder was small, contracted and fibrosed (suggestive of chronic cholecystitis) in 204 cases (74%). Sludge in the gall-bladder was detected in 104 cases (38%) whereas gall-bladder was distended in only 59 cases (21.6 %). Intraluminal growth in gall-bladder was detected in only 18 cases (6.5%), suggestive of malignancy. Thickened wall of gall-bladder was noticed in 32 cases (4.7%) which could be due to inflammatory process or malignant disease. Nodules in the liver was detected in 9 cases (3.4%), suggestive of invasion due to malignant process whereas ascites was present in only 4 cases (1.4%) indicative of distant spread of carcinoma. Few cases (23) showed swollen pancreas indicative of acute pancreatitis secondary to biliary calculous disease[Table no-II]

The final pattern of disease diagnosed on the basis of histopathological examination. Maximum number of cases 178(65.35%) of this series were of chronic cholecystitis out of which 174 cases were calculous. It included 14 cases of mucocele of gall-bladder and 4 cases of empyema. Total 20 (6.6%) cases were histologically confirmed as cases of carcinoma of gall-bladder. There were 46 cases (16.8%) of acute cholecystitis out of which 5 cases were of acalculous variety[Table no-III]. The chronic cholecystitis is the major disease of gall-bladder, has been described by Colock et al<sup>[11]</sup>.With regard to preponderance of chronic cholecystitis the report of present series is slightly lower with that the series of Colock et al of 1356 patients.

The association of disease with stone is so close that it has been questioned whether cholecystitis ever occurs without associated gallstones.In 1356 operations on biliary tract by Colock et al<sup>[11]</sup>, the incidence of chronic cholecystitis with stone and without stone was 81.9% and 4.2 % respectively. When we compare above figures with the present series, we find that cases of cholelithiasis have almost similar incidence in present series (92.7 %)

**CONCLUSION:**

chronic cholecystitis was the most common gall-bladder disease which was found in 178 cases (65.3%). The next common gall-bladder disease was acute cholecystitis (16.8%). Carcinoma gall-bladder was detected in 24 cases (8.6%). Mucocele, empyema and cholesterosis was found in 14, 4 and 6 cases respectively (5.2%, 1.4% and 2.2%).

**TABLE – I  
AGE WISE SEX DISTRIBUTION OF GALL BLADDER DISEASES**

Age group (years)	Patients		Male	Female
	No.	%		
< 25	5	1.8	0	5
25–34	72	26	14	58
35–44	80	29	17	63
45–54	59	21	12	47
55–64	40	14.5	7	32

65–74	20	7.2	5	15
> 75	0	-	0	0
Total	276		55 (20%)	221 (80%)

**TABLE – II  
ULTRASONOGRAPHIC FINDINGS IN GALL BLADDER DISEASES**

Sl. No.	Ultrasonographic findings	No. of cases	%
1	Gall-bladder small, contracted and fibrosed	204	74
2	Acoustic shadow in gall-bladder	242	87.8
3	Sludge in gall-bladder	104	38
4	Distension of gall-bladder	59	21.6
5	Intraluminal growth in gall-bladder	18	6.5
6	Thickened gall-bladder wall	32	11.5
7	Dilatation of common bile duct	35	15
8	Acoustic shadow in common bile duct	9	3.4
9	Dilated intrahepatic biliary channels	33	12
10	Nodule in liver	9	3.4
11	Swollen and oedematous pancreas	23	8.6
12	Ascites	4	1.4

**IN TABLE – III  
FINAL DIAGNOSIS OF GALL BLADDER DISEASES  
(AFTER HISTOLOGICAL EXAMINATION)**

Diseases		No. of cases	Percentage
Chronic cholecystitis n=178 (65.3%)	Calculous	174	63.9
	Acalculous	4	1.4
Acute cholecystitis n=46 (16.8%)	Calculous	41	15.07
	Acalculous	5	1.8
Mucocele of gall-bladder		14	5.2
Pyocele of gall-bladder (Empyema)		4	1.4
Cholesterosis		6	2.2
Carcinoma	With stones	22	7.8
	Without stones	2	0.72

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