



## HISTOPATHOLOGICAL ANALYSIS OF GALLBLADDER LESIONS IN A TERTIARY CARE HOSPITAL IN ANDHRA PRADESH

<b>Kasa Lakshmi</b>	Associate Professor, Dept. of Pathology, kurnool medical college, kurnool
<b>Lavanya sangati*</b>	Senior Resident, Dept. of Pathology, Kurnool medical college, *Corresponding Author
<b>V.Jyothi</b>	Assistant Professor, Dept. of Pathology , Kurnool medical college
<b>D. Anitha Rani</b>	Assistant Professor, Dept. of Pathology , Kurnool medical college

### ABSTRACT

**Introduction :** This study is done to report the frequency of gall bladder lesions and histopathology of various lesions of 315 cholecystectomies from January 2015 to January 2017. Gall bladder may be affected by infection, inflammation, benign and malignant conditions. Among all gall stones are the commonest biliary pathology.

**Aim :** To study the histopathological spectrum of lesions of gall bladder.

**Materials and methods:** A retrospective study was carried out over a two years period from January 2015 to January 2017. A total of 315 gall bladder specimens were received in the department of pathology. Clinical details and histopathological findings were analysed to determine the incidence and prevalence of various gall bladder lesions.

**Results:** There were 315 cholecystectomy specimens. Male to female ratio was 1: 1.7. Majority of the patients were between 41 – 50 years. Chronic cholecystitis was the commonest condition seen in 232(73.65%) . Other benign diseases were acute cholecystitis 58(18.41%), Xanthogranulomatous cholecystitis 3(0.95%), gallbladder polyps 7 (2.22%), cholesterosis 6(1.9%) and acute gangrenous cholecystitis 5(1.58%). Four cases ( 1.26%) showed adenocarcinoma.

**Conclusion:** Chronic cholecystitis is the commonest lesion of gallbladder with female predominance and most of them are associated with gall stones. Routine histopathology of all cholecystectomy specimens is needed as subsequent report would provide evidence of malignancy which helps in further management of the patient and better prognosis.

**KEYWORDS :** Gallbladder, chronic cholecystitis, adenocarcinoma

### Introduction:

Gall bladder diseases are one of the most common general surgery cases. Cholelithiasis is the most common pathology in the gall bladder. Gall stone disease affects 10 – 20 % of adult population in developed countries, and its prevalence in Asian population is around 3-5%. The incidence of gall stones and diseases of gall bladder is increased due to unhealthy life style changes like fat rich food, lack of exercise and obesity. Laproscopic cholecystectomy is now recommended treatment for symptomatic gall stone patients. It is mandatory to submit all cholecystectomy specimens for histopathology as many significant pathologies can present with normal morphological appearance. It helps in clinicopathologic correlation of various gall bladder lesions and in diagnosis of premalignant and malignant lesions.

### Materials and methods:

This was a retrospective study from January 2015 to January 2017 in department of pathology, Kurnool medical college, Kurnool. During this period we received 315 cholecystectomy specimens from Department of Surgery, Kurnool Medical college, Kurnool and surrounding hospitals. These specimens were fixed in 10 % formalin and submitted to detailed gross examination. Three full thickness sections of the gall bladder obtained from fundus, body and neck. If other grossly abnormal areas were present, additional sections were taken. Tissues are processed according to standard procedure. 3-4  $\mu$  thickness sections were taken and stained with hematoxylin and eosin. Special stains were used, wherever required.

### Results:

A total of 315 cholecystectomy specimens were studied. Male to female ratio was 1 : 1.7. In this study age ranges from 9 years to 80 years with a mean of 49 yrs. The age and sex distribution of various gall bladder lesions is shown in Table -1. Female predominance is prominently seen. All cases were examined microscopically and categorized. Chronic cholecystitis was reported in 232 (73.65%) cases followed by acute cholecystitis in 58 (18.41%) cases. Cholesterosis in 6(1.9%), xanthogranulomatous cholecystitis in 3 ( 0.95%), acute gangrenous cholecystitis in 5 (1.58%) cases and gallbladder polyps in 7 (2.22%) cases were other benign lesions noted. Four gall bladders ( 1.26%) showed adenocarcinoma.

**Table 1: Age and sex distribution of patients with cholecystectomy specimens.**

Age group(yrs)	Male	Female	Total
<b>Upto 20</b>	12(3.8%)	15(4.7%)	27(8.5%)
<b>21-30</b>	14(4.4%)	31(9.8%)	45(14.2%)
<b>31-40</b>	21(6.6%)	50(15.8%)	71(22.5%)
<b>41-50</b>	29(9.2%)	49(15.5%)	78(24.7%)
<b>51-60</b>	26(8.2%)	36(11.4%)	62(19.6%)
<b>61-70</b>	12(3.8%)	15(4.7%)	27(8.5%)
<b>71-80</b>	2(0.6%)	3(0.9%)	5(1.5%)
<b>Total</b>	116	119	315

**Table 2: Histopathological findings of gall bladder specimens**

S.No	Histopathological	No. of specimens	%	Male	Female
1	Chronic Cholecystitis	232	73.65%	87	145
2	Cholesterosis	6	1.90%	2	4
3	Xanthogranulomatous cholecystitis	3	0.95%	1	2
4	Acute cholecystitis	58	18.41%	20	38
5	Acute gangrenous cholecystitis	5	1.59%	2	3
6	Gallbladder polyps	7	2.22%	-	7
7	Adenocarcinoma	4	1.27%	2	2
<b>Total</b>		315	100%	114	201

**Fig 1. Gross and microscopic images of gallbladder lesions**

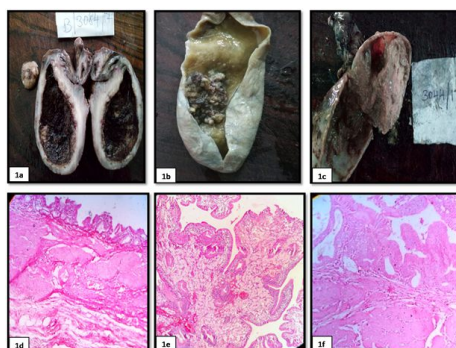


Fig 1a,b,c gross images of chronic cholecystitis, gallbladder polyp, gallbladder adenocarcinoma with necrosis respectively. Fig 1c. microscopic image of chronic cholecystitis. 10x, Fig 1d. microscopic image of gallbladder polyp, 10x, Fig 1e. microscopic image of gall bladder adenocarcinoma.40x

### Discussion:

Cholecystectomy specimens are commonly received in each histopathology laboratory, where they were examined for various pathological lesions. The present study was carried out on 315 cholecystectomy specimens to determine the histopathological spectrum and frequency of various gall bladder lesions.

In this study, age of the patient ranged from 9 – 80 years. Majority of the patients were in fourth decade of their life and male to female ratio is 1: 1.7. Similar studies also reported female predominance<sup>4,5</sup>. The incidence of gall bladder disease in female patients is high due to sedentary life style and female sex hormones leading to formation of gall stones<sup>6</sup>. The commonest diagnostic entity in our study was chronic cholecystitis consisting of 232 (73.65%) cases. This group has various histopathological spectrum of lesions like acute on chronic cholecystitis, cholesterosis, xanthogranulomatous cholecystitis and porcelain gall bladder. A similar study by Memon<sup>7</sup> also reports chronic cholecystitis as major finding found in 64.8% cases. In the present study cholesterosis was identified in 6(1.90%) cases. This is comparable to the result of study conducted by Hamidullah Shah et al<sup>8</sup>. Xanthogranulomatous cholecystitis was observed in 3 (0.95%) cases. In this series the incidence was lower compared to the study done by Mohan et al<sup>9</sup> who reported an incidence of 2.3%. This condition mimics carcinoma on gross examination as there is increased wall thickness. So, it is important to be aware of this variant to avoid any aggressive diagnosis. In this study there were gallbladder polyps in 7 (2.22%) cases and all the patients were female. This incidence is similar to the study done by Matos AS et al<sup>10</sup>. But, the prevalence of polyps is much higher amongst males<sup>10</sup> which is contrary to our study. In our study 4(1.26%) cases of carcinoma of gall bladder were reported. Similar studies conducted by Khan et al<sup>11</sup> and Thamil Selvi et al<sup>12</sup> reported the incidence of gall bladder carcinoma as 2.2% and 1.2% respectively. In two cases there were irregular growths and in remaining two cases there were no specific findings. In spite of advancements in diagnostic and surgical modalities, gall bladder carcinoma is still diagnosed lately with poor prognosis except when incidentally diagnosed at an early stage after cholecystectomy for cholelithiasis. Gall bladder malignancy usually do not have any characteristic clinical features. Over 90% of the patients present with the symptoms of acute or chronic cholecystitis<sup>13</sup>.

### Conclusion :

Gall bladder lesions are common in 4<sup>th</sup> decade of life with female predominance. Chronic cholecystitis was the commonest lesion and majority were associated with gall stones. We strongly advocate routine histopathology of all cholecystectomy specimens, since it would provide evidence of malignancy. Early diagnosis and treatment is the crucial step in decreasing morbidity and mortality.

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