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# HISTOLOGICAL EVALUATION OF 200 CHOLECYSTECTOMY SPECIMENS: AN OBSERVATIONAL STUDY

**Dr. Sujata Deonia** PG student Department of pathology Government Medical College Jammu

**Dr. Swati Arora*** Senior Resident Department of Pathology Government Medical College Jammu.
*Corresponding Author Email Id : swatiaroraaaa@gmail.com

**ABSTRACT** **BACKGROUND:** Cholecystectomy specimen is the most commonly encountered specimen in the surgical pathology laboratory besides the appendicectomy specimens. Chronic cholecystitis occurs after the repeated episodes of acute cholecystitis and is almost always due to gallstones. **MATERIALS AND METHODS** A retrospective study was conducted on 200 cholecystectomy specimens received in the Department of Pathology of Government Medical College, Jammu over the period of 3 months from June 2018 to August 2018. **RESULTS AND OBSERVATIONS** Out of 200 cases,136 (68%) were females and 64 (32%)were male with the M:F ratio of 1:2.1. The age of the patients ranged from 14 to 70 years. Mean age of the patient was 37 years.Of all these cases,60.5% had chronic cholecystitis with gall stones, 6% had acute cholecystitis.10.5% cases of cholestrolosis, 5 % cases of Xanthogranulomatouscholecystitis,2.5% Carcinoma.**CONCLUSION:**Gall bladder lesions are very diverse ranging from non-neoplastic to neoplastic lesions and affect most commonly the females of third to fifth decade .The chronic cholecystitis associated with gall stones is the most common histopathologic diagnosis

**KEYWORDS**

Cholecystectomy specimen, gallstone disease, Gall bladder lesions

***Corresponding Author Dr. Swati Arora** Senior Resident Department of Pathology Government Medical College Jammu.

## INTRODUCTION

Cholecystectomy specimen is the most commonly encountered specimen in the surgical pathology laboratory besides the appendicectomy specimens. Gallstone is the most common disease of the gall bladder. The prevalence of the gallstone disease shows variations among different age groups ,sex and ethnic group. In India, gallstone disease is 7 times more common in the north as compared to the south[7].(Mohan H, et al.1988-9).A gallstone is a calculus or stone formed within the gallbladder as a concretion of bile components.[3](Fitzgerald JEF, et al. 2009). Chronic cholecystitis occurs after the repeated episodes of acute cholecystitis and is almost always due to gallstones[6].(Laurila JJ, et al.2005).. Reactive changes seen in some cases of cholecystitis may sometimes mimic dysplasia which is thought to be the main precursor of invasive gallbladder carcinoma.Most of the invasive carcinomas of gallbladder present at advanced stage and therefore are proved very lethal.Usual stone associated cholecystitis has only mild inflammation, but variants of cholecystitis may have abundant xanthoma cells , eosinophils or lymphocytes and plasma cells. Benign and malignant tumors also occur in the gall bladder.[1](Albroes-SaavedraJ,et al.2000). Surgical pathologist plays a very crucial role to detect these changes and distinguish between these changes. The purpose of this study was to determine various histopathological patterns of gallbladder lesions in cholecystectomy specimens.

## MATERIALS AND METHODS

A retrospective study was conducted on 200 cholecystectomy specimens received in the Department of Pathology of Government Medical College, Jammu over the period of 3months from June 2018 to August 2018.Clinical details and the histological details were obtained from the surgical histopathology forms and reports respectively. Cholecystectomy specimens received in the laboratory were fixed in 10%formalin and submitted to detailed gross examination. Three full thickness sections were taken from fundus, body and neck of the gall bladder.Additional sections were taken from any grossly abnormal area if present. Sections were then stained with H and E stain and examined under light microscope for various histopathological changes in the gall bladder.

## RESULTS AND OBSERVATIONS

Out of 200 cases,136 (68%) were female and 64 (32%)were male with the M:F ratio of 1:2.1. The age of the patients ranged from 14 to 70 years. Mean age of the patient was 37 years. Maximum number of patients were between 41 – 50 years in both sexes with male (43.75%) and female (36.76%).

**Table1:Age and sex distribution**

| Age group (years) | Male n=64(%) | Female n=136(%) | Total |
|---|---|---|---|
| 11-20 | 3(4.68%) | 6(4.41%) | 9 |
| 21-30 | 10(15.62%) | 22(16.17%) | 32 |
| 31-40 | 15(23.43%) | 28(20.58%) | 43 |
| 41-50 | 28(43.75%) | 50(36.76%) | 78 |
| 51-60 | 5(7.81%) | 18(13.23%) | 23 |
| 61-70 | 3(4.68%) | 12(8.82%) | 15 |

**Table 2: Diseases and lesions of gall bladder among the cholecystectomies.**

| Diseases | Number | Percentage | Male | Female |
|---|---|---|---|---|
| Normal gall bladder | 5 | 2.5% | 1 | 4 |
| Acute cholecystitis | 12 | 6% | 4 | 8 |
| Chronic cholecystitis with gall stones | 121 | 60.5% | 32 | 89 |
| Chronic cholecystitis without gallstones | 8 | 9% | 7 | 11 |
| Cholestrolosis | 21 | 10.5% | 9 | 12 |
| Gangrenous cholecystitis | 5 | 2.5% | 4 | 1 |
| Autolysed gall bladder | 8 | 4% | 3 | 5 |
| Xanthogranulomatouscholecystitis | 10 | 5% | 6 | 4 |
| Eosinophillicholecystitis | 3 | 1.5% | 1 | 2 |
| Follicullarcholecystitis | 2 | 1% | 0 | 2 |
| Carcinoma | 5 | 2.5% | 2 | 3 |

Of all these cases,majority i.e. 121 cases (60.5%) had chronic cholecystitis with gall stones characterized microscopically by the mononuclear infilteration with fibrosis.12 cases (6%) had acute cholecystitismicroscopically characterized by neutro philicin filteration in the mucosa with fibroblastic proliferation.21 cases (10.5%) of cholestrolosis histologically showed foamy macrophages in the lamina propria. Xanthogranulomatouscholecystitis was observed in 10 cases (5%) which was characterized by marked fibrosis amdinfilteration of wall by macrophages and foam cells histologically. Carcinoma in 5 cases (2.5%)which were all incidental, were characterized by the ill formed glands lined by one or a few rows of highly atypical cuboidal cells surrounded by a cellular stroma. Out of 200 cases, non-neoplastic lesions constituted 190 cases (95%) whereas neoplastic lesion contributed to 5 cases (2.5%) with ratio of non-neoplastic to neoplastic lesion 38:1.

## DISCUSSION

Cholecystectomy is most commonly done in the gallstone disease .In

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India, the estimated prevalence of the disease is reported to be between 2 and 29% with the disease more common in the north than the south India[7].(Mohan H.,et al.2005).the present study was donefor histological evaluation of 200 cholecystectomy specimens.Gall bladder is one of the organ which has wide spectrum of lesions ranging from non- neoplastic to neoplastic .So needs to be histomorphologically typed into non-neoplastic and neoplastic categories.

The present study showed gall bladder lesions more common in females (68%) than males(32%)with M:F ratio of 1:2.1which was similar to other studies done by Tantia et al.,Sharma JD et al. and N.T.Damor a,et al [9,13].In our study, the age of the patients ranged from 14 to 70 years with maximum cases of non-neoplastic lesions occurring in fourth decade, 41-50 years (39% cases) followed by the third decade, 31-40 years (21.5%cases).The neoplastic lesions were present in the patients more than 50 years of age. Khanna et al.also reported maximum cases of non-neoplastic lesions in the third to fifth decade[4]. In our study out of 200 cases ,121cases (60.5%) were found to be associated with gallstones which is comparable with the study done by Binita Pandya et al.,Awasthi et al.,and Sharma JD et al.[2,12,13]Current study also showed female predominance in chronic cholecystitis associated with gallstones(44.5%cases) which was the most common histologic finding among all the lesions of gallbladder in the present study. Female sex hormones and sedentary habits of most females in India expose to thefactors that possibly leads to the formation of gallstones. (Mohan H et al.2005;Tandon RK 1988).[7,14] In our study 10 cases (5%) were of xanthogranulomatous cholecystitis which is comparable to the study done by Khan,et al [5]. It is important to recognize this variant as grossly it presents with the increased wall thickness and can mimic carcinoma. The ratio of non-neoplastic to neoplastic lesion in the current study was 38:1 which is comparable to the study done by Ojed et al and N.T.Damor a, et al. [9,10]The neoplastic lesions in the present study constituted 5 cases (2.5%) which were all incidental without any clinical pre- operative suspicion which is comparable to the study done by Khan et, al.[5].Despite advances in diagnostic and surgical techniques,gall bladder cancer is diagnosed lately and hence has poor prognosis expect when incidentally found at an early stage in cholecystectomy specimen done for cholelithiasis.[8] ( Memon W,et al 2011).

## CONCLUSION

Gall bladder lesions are very diverse ranging from non-neoplastic to neoplastic lesions and affect most commonly the females of third to fifth decade .The chronic cholecystitis associated with gall stones is the most common histopathologicdiagnosis.Other variants of chronic cholecystitis such as xanthogranulomatous ,eosinophillic and follicular cholecystitis were also noted. The gall bladder cancers were primary adenocarcinomas and incidental as all were diagnosed in the cholecystectomy specimens done for cholelithiasis.The incidental finding of gall bladder carcinomas clearly indicate the importance of histopatholoical examination of all routine cholecystectomy specimens .

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