

A Histomorphological Study on Gall Bladder Lesions at a Tertiary Care Centre.

Harshita Vaibhaw¹, E. Girikumar², Dilip Hari Mandke³, Ravi Nandan Prasad Sinha⁴

¹Assistant Professor, Department of Pathology, Great Eastern Medical School & Hospital, Srikakulam, Andhra Pradesh.

²Professor & Head, Department of Pathology, Great Eastern Medical School & Hospital, Srikakulam, Andhra Pradesh.

³Professor, Department of Pathology, Great Eastern Medical School & Hospital, Srikakulam, Andhra Pradesh.

⁴Professor, Department of Pathology, Darbhanga Medical College, Darbhanga, Bihar.

Received: January 2019

Accepted: January 2019

Copyright: © the author(s), publisher. It is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Gall bladder diseases constitute common health problem worldwide. Cholelithiasis is responsible for over 95% of gall bladder diseases. **Methods:** The present cross-sectional study was conducted upon 296 cholecystectomy specimens received in the department and findings of histopathology were noted. **Results:** Most of the cases belonged to the age group of 41-50 years. Chronic Calculous Cholecystitis (89.5%), Chronic cholecystitis with cholesterosis (3%), Follicular Cholecystitis (1.7%), Acute Calculous Cholecystitis (1%), Chronic Cholecystitis With Dysplastic Changes (1.4%) and Adenocarcinoma of gall bladder (1%) were the common changes. **Conclusion:** Chronic calculous cholecystitis was seen in 89.5% specimens and adenocarcinoma in 1%.

Keywords: Gall Bladder, Histopathology, Profile.

INTRODUCTION

Gall bladder is one of the common organs resected in surgery department.^[1] Gall bladder diseases constitute common health problem worldwide.^[2] Its prevalence varies from place to place. The prevalence has been reported to be 2-29% in India and varies with demographic characteristics.^[3] Cholelithiasis is responsible for over 95% of gall bladder diseases. Cholelithiasis leads to changes in mucosa which may range from acute inflammation to dysplasia and carcinoma.^[4,5] Knowledge about spectrum of illnesses is helpful for the clinician to make provisional diagnosis. Hence, this study was conducted.

Aims & objectives

The present study was conducted to identify the different histopathological patterns of gall bladder diseases in a tertiary care hospital.

Name & Address of Corresponding Author

Dr. Harshita Vaibhaw,
Assistant Professor,
Department of Pathology,
Great Eastern Medical School & Hospital,
Aditya Educational Society,
Ragolu Village, Srikakulam,
Andhra Pradesh,
PIN-532484.

MATERIALS AND METHODS

The present cross-sectional study was conducted at a medical college hospital. All the excised cholecystectomy specimens received in the department of Pathology were included in the present study. A total of 296 samples were included in the present study.

Details of patients were noted including age, sex and clinical features. Cholecystectomy specimens received were opened longitudinally and examined for morphological features including size, colour, external surface, mucosa and stones. It was fixed overnight in 10% formalin. Three sections were taken from wall, body, fundus and neck. Abnormal mucosa was also sampled. Slides were prepared and stained with Haematoxylin and Eosin staining. Special stains like Alcian blue- PAS at pH 2.5 were used to demarcate neoplasia.

Data was recorded in pretested proforma, entered in Microsoft Excel and analyzed by SPSS v 16.0. Descriptive statistics was used to summarize the categorical variables as proportions and numerical variables as mean \pm SD. p-value of less than 0.05 was considered to be statistically significant.

RESULTS

A total of 296 patients were included in the present study. Table-1 shows that most of the cases belonged to the age group of 41-50 years (26.7%).

Table 1: Age distribution of the cases

Age (in years)	Frequency (n=296)	%	95% CI
up to 20	10	3.4	1.8-6.1
21-30	66	22.3	17.9-27.4
31-40	71	24	19.5-29.2
41-50	79	26.7	22-32
51-60	46	15.5	11.9-20.1
>60	24	8.1	5.5-11.8

[Table 2] shows the sex distribution of study subjects. 29.7% were males and 70.3% were females.

Table 2: Sex distribution of the cases

Sex	Frequency (n=296)	%	95% CI
Male	88	29.7	24.8-35.2
Female	208	70.3	64.8-75.2

[Table 3] shows the nature of lesions. Neoplastic changes were seen in 1.01% of the specimens.

Table 2: Nature of lesions

Nature	Frequency (n=296)	%	95% CI
Neoplastic	3	1.01	0.3-2.9
Non Neoplastic	293	98.99	97.1-99.7

[Table 4] shows the findings of histopathological examination. The major changes observed were chronic Calculous Cholecystitis (89.5%), chronic cholecystitis with cholesterosis (3%), Follicular Cholecystitis (1.7%), Acute Calculous Cholecystitis (1%) and Chronic Cholecystitis with Dysplastic Changes (1.4%). Adenocarcinoma of gall bladder was seen in 1% specimens.

Table 4: Findings of histopathological examination

Histopathology	Frequency (n=96)	%	95% CI
Chronic Calculous Cholecystitis	265	89.5	85.5-92.5
Chronic cholecystitis with cholesterosis	9	3	1.6-5.7
Follicular Cholecystitis	5	1.7	0.7-3.9
Acute Calculous Cholecystitis	7	2.4	1.2-4.8
Acute Acalculous Cholecystitis	3	1	0.3-2.9
Chronic Cholecystitis With Dysplastic Changes	4	1.4	0.5-3.4
Adenocarcinoma Of Gall Bladder	3	1	0.3-2.9

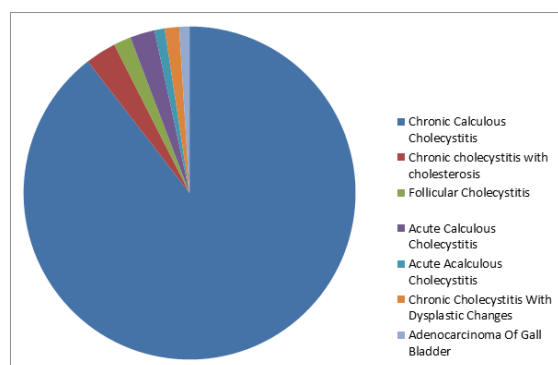


Figure 1: Showing histopathological changes

DISCUSSION

In the present study, most of the cases belonged to the age group of 41-50 years (26.7%). 29.7% were males and 70.3% were females. Devi et al found that majority of Gall bladder diseases were in the age range of 41-50 yrs. Males accounted to 36% and females 64%.^[6] Shah et al observed that 27.9% were males and 72.1% were females. Mean (SD) age of the study participants was 44 (15) years.^[7]

Sharma et al found the Male: Female ratio of 1:2.8. The peak age incidence was between 41-50 years followed by 31-40 years.^[8] Mahajan et al also observed that most cases were in the age group of 41-50 years (30.18%). Ratio of male to female cases was 1:2.03.^[9] Patil et al revealed female preponderance with peak incidence of non-neoplastic lesion in 4th decade and neoplastic lesions in 5th decade.^[10]

In the present study, Neoplastic changes were seen in 1.01% of the specimens. The major changes observed were chronic Calculous Cholecystitis (89.5%), Chronic cholecystitis with cholesterosis (3%), Follicular Cholecystitis (1.7%), Acute Calculous Cholecystitis (1%) and Chronic Cholecystitis With Dysplastic Changes (1.4%). Adenocarcinoma of gall bladder was seen in 1% specimens. Devi et al found that the most common lesion was Chronic cholecystitis(86%). Other benign lesions were acute cholecystitis(4%), cholesterolosis(6%), gangrenous cholecystitis (1%). A single case of adenomyoma of gallbladder(0.5%) and two cases of carcinoma of gall bladder (1%), one being adenocarcinoma of gall bladder and other being hepatoid adenocarcinoma was observed.^[6]

Shah et al observed that chronic cholecystitis was the most common diagnosis in 70.4% patients followed by chronic cholecystitis with cholesterosis (8.7%). Carcinoma gall bladder incident rate was 0.87%.^[7] Sharma et al observed that maximum cases were of chronic calculous cholecystitis (86.2%) followed by chronic cholecystitis with evidence of cholesterosis (4.4%). 0.94% of adenocarcinoma were detected out of which 0.62% were incidental adenocarcinoma of gall bladder.^[8] Mahajan et al found that maximum number of cases were of chronic calculus cholecystitis (75.15%) followed by chronic acalculus cholecystitis (13.72%) cases.^[9] Carcinoma of gallbladder was found in only 0.76% cases. Gall stones were seen in 52% of cases in the study done by Patil et al. Incidence of various lesions was chronic cholecystitis 93.1%, acute cholecystitis 2.91%, chronic follicular cholecystitis 0.72%, xanthogranulomatous cholecystitis 1.1%, cholesterolosis 0.46%, eosinophilic cholecystitis 0.18%, and carcinoma of gall bladder 1.1%.^[10]

CONCLUSION

It is concluded from the present study that chronic calculous cholecystitis was seen in 89.5%

specimens. Adenocarcinoma was present in 1% cases. Routine histopathological examination of all cholecystectomy specimens must be done for detection of pathologies and incidental Carcinoma of gall bladder.

REFERENCES

1. Volkan A. Sternberg's diagnostic surgical pathology. 5th ed. Baltimore: Lippincott Williams and Wilkins; 2010.
2. Crawford J, Liu C. Liver and Biliary Tract. Pathologic basis of disease. 8th ed: Elsevier; 2011.
3. Dattal DS, Kaushik R, Gulati A, Sharma VK. Morphological spectrum of gall bladder lesions and their correlation with cholelithiasis. *Int J Res Med Sci* 2017;5:840-6.
4. Randi G, Franceschi S, La Vecchia C. Gallbladder cancer worldwide: geographical distribution and risk factors. *Int J Cancer*. 2006;118:1591-602.
5. Siddiqui FG, Memon AA and Ahmad. Routine histopathology of gallbladder after elective cholecystectomy for gallstones: waste of resources or a justified act? *BMC Surgery*. 2013; 13:26.
6. Devi NS, Valarmathi K, Jamila A, Abinaya. Gamut of Gall Bladder Lesions-A Histomorphological Study in a Tertiary Hospital in South India. *International Journal of Scientific Research* 2017; 6(9): 40-1.
7. Shah B, Degloorkar S. A retrospective audit of gall bladder histopathology following cholecystectomy. *IP Journal of Diagnostic Pathology and Oncology*, April-June, 2018;3(2):123-126.
8. Sharma I, Choudhury D. Histopathological patterns of gall bladder diseases with special reference to incidental cases-a hospital based study. *Int J Res Med Sci* 2015;3:3553-7.
9. Mahajan VR, Jawarkar AV, Hiwale BN. Clinicopathological profile of cholecystectomy specimens-a retrospective and prospective study. *Trop J Path Micro* 2018; 4(6):455-465.doi:10.17511/jopm.2018.i6.07.
10. Patil M, Londhe MM, Margam S, Iqbal S. Spectrum of Lesions of Gall Bladder: Experience of Five Years at Tertiary Care Hospital. *Annals of Pathology and Laboratory Medicine* 2018; 5(9): A-779-84.

How to cite this article: Vaibhaw H, Girikumar E, Mandke DH, Sinha RNP. A Histomorphological Study on Gall Bladder Lesions at a Tertiary Care Centre. *Ann. Int. Med. Den. Res.* 2019; 5(2):PT39-PT41.

Source of Support: Nil, **Conflict of Interest:** None declared