



HISTOPATHOLOGICAL STUDY OF GALL BLADDER LESIONS.

Histopathology

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ABSTRACT

Introduction: Gall bladder is one of the organs that is very commonly affected by many pathologies ranging from inflammatory to neoplastic lesions. Clinical diagnosis of the gall bladder lesions is based on the history, physical examination and radiological findings of the patients. Cholecystectomy is most commonly performed operation for the gall stones. However Histopathological examination is the gold standard for the diagnosis of gall bladder lesions. **Material And Methods:** This is a retrospective study of 56 cholecystectomy specimens received over a period of one year from May 2022 to May 2023. Sections from the appropriate areas were given and routine staining with hematoxylin and eosin was done. **Result:** Out of 56 cases, 32 were female (57.1%) and 24 were male (42.9%). Chronic calculus cholecystitis was the most common (41%) lesion followed by acute calculus cholecystitis (12.5%) and cholecystitis glandularis proliferance (12.5%). Remaining cases were chronic acalculus cholecystitis (10.7%), acute necrotizing cholecystitis (5.3%), acute on chronic cholecystitis (5.3%), acute acalculus cholecystitis (3.5%), eosinophilic cholecystitis (1.78%), emphysematous cholecystitis (1.78%), malakoplakia with cholecystitis (1.78%), and adenocarcinoma of gall bladder (3.5%). **Conclusions-** Inflammatory lesions predominate over the neoplastic lesions. Routine histopathological examination of all cholecystectomy specimens is strongly recommended for the detection of various gall bladder lesions and also of incidental carcinoma of gall bladder which helps in their treatment and prognosis. Surgeons and pathologist should be cautious while dealing with gall bladder lesions.

KEYWORDS

Cholecystitis, cholelithiasis, adenocarcinoma.

INTRODUCTION:

Gall bladder is the organ where bile is stored and concentrated, which helps in digestion of fat.¹ The current changes in lifestyle like intake of unhealthy fat-rich food, lack of exercise, obesity, sedentary lifestyle increases the incidence of gall stones and diseases of the gall bladder.²

Gall bladder shows a wide spectrum of diseases ranging from nonneoplastic to the neoplastic lesions.³ Among the gall bladder lesions, gall stone is a very common health problem affecting most of the people throughout the world.⁴ Gallbladder lesions are very common in fatty, fertile female of forty to fifty years age group.⁵

Gall stones produce inflammation of gall bladder which can be acute, chronic or acute on chronic. Chronic cholecystitis produces diverse histopathological changes in gallbladder mucosa like acute, chronic inflammation, glandular hyperplasia, and metaplasia.⁶ The incidence of cholelithiasis and cholecystitis appear to be increasing over past couple of decades. Cholecystectomy is the treatment of choice for all gall bladder lesions irrespective of their nature or underlying disease process.¹

The incidence of gall bladder carcinoma is 0.8- 1%.⁷ Cholelithiasis is found in approximately 85% of people with gallbladder carcinoma.⁸ Gall bladder carcinoma is a rare condition commonly diagnosed as an incidental finding on histopathological examination.⁹

Aim And Objectives:

- To study the frequency of various gall bladder lesions based on histopathological findings.
- To correlate clinicopathologically the different gall bladder lesions.

MATERIALS AND METHODS:

This is a Retrospective observational study carried out in Department of pathology, tertiary care center from May 2022 to April 2023 (1 year). Total 56 cholecystectomy specimens were received within 1 year. Resected specimens were sent in 10% formalin either intact or as already opened up. All specimens were examined grossly for the presence of stones, growth, polyps, ulceration. The size of gall bladder, shape, external surface, wall thickness and nature of mucosa were noted. After gross examination, sections from the appropriate areas were taken and subjected for routine tissue processing. Sections were stained with Hematoxylin and Eosin. Detailed microscopic study was

done under light microscope and then final diagnosis was achieved.

Inclusion criteria: All cholecystectomy specimens received in the histopathology section.

Exclusion criteria: Poorly fixed or autolyzed specimens were excluded.

Observations:

Out of total 56 cases in the present study, 32 (57.1%) were females and 24 (42.9%) were males with M:F ratio of 1:1.3.

Chronic calculus cholecystitis was the most common (41%) lesion followed by acute calculus cholecystitis (12.5%) and cholecystitis glandularis proliferance (12.5%). Remaining cases were chronic acalculus cholecystitis (10.7%), acute necrotizing cholecystitis (5.3%), acute on chronic cholecystitis (5.3%), acute acalculus cholecystitis (3.5%), eosinophilic cholecystitis (1.78%), emphysematous cholecystitis (1.78%), malakoplakia with cholecystitis (1.78%), and adenocarcinoma of gall bladder (3.5%). Table 1 shows the distribution of various gall bladder lesions.

Table 1: Distribution of various gall bladder lesions.

SR. NO	NONNEOPLASTIC LESIONS	No. OF CASES	PERCENT AGE
1	Chronic calculus cholecystitis	23	41%
2	Chronic acalculus cholecystitis	6	10.7%
3	Acute calculus cholecystitis	7	12.5%
4	Acute acalculus cholecystitis	2	3.5%
5	Acute on chronic cholecystitis	3	5.3%
6	Eosinophilic cholecystitis	1	1.78%
7	Emphysematous cholecystitis	1	1.78%
8	Acute necrotizing cholecystitis	3	5.3%
9	Malakoplakia with cholecystitis	1	1.78%
10	Cholecystitis glandularis proliferance	7	12.5%
	Neoplastic Lesions		
1	Adenocarcinoma of gall bladder	2	3.5%

Out of total 56 cases in the present study, 31 cases had gall stones. Among that, 21 are pigment stones and are the most common and identified as multiple, small, jet black or brown-colored stones followed by 8 cholesterol stones which are solitary, oval, yellowish in colour. And 2 mixed stones which are multiple, multifaceted and of variable size.

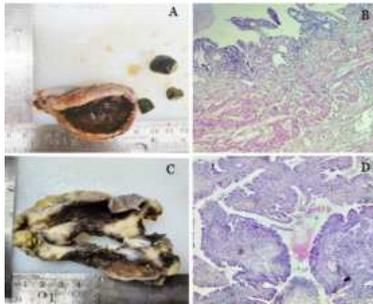


Fig 1
A: Gross: Gall bladder with pigment stones
B: Chronic cholecystitis: lymphoid infiltrate below the mucosa. [H&E: 10X]
C: Gross: Gall bladder showing thickened wall.
D: Adenocarcinoma: showing tumor cells with pleomorphic hyperchromatic nuclei. [H&E:10X]

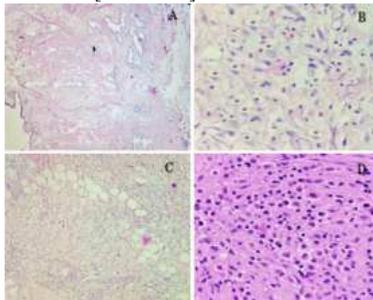


Fig 2
A: Cholecystitis glandularis proliferation. [H&E:10X]
B: Eosinophilic cholecystitis. [H&E: 40X]
C: Emphysematous cholecystitis. [H&E: 10X]
D: Malakoplakia with cholecystitis showing abundant foamy histiocytes along with basophilic targetoid structure called Michaelis Gutmann bodies. [H&E: 10X]

DISCUSSION:

In the present study of 56 cases, 17 cases were (30.35%) in the age group of 31-40yrs which is consistent with the study conducted by Narendra et al¹⁰ and Kulkarni AM et al¹¹. Table 2 shows comparison of age group distribution.

Table 2: Comparative study of the most common age group for gall bladder lesions in the present study with other study.

Age group in years	Present Study	Narendra et al ¹⁰	Kulkarni AM et al ¹¹
0-10	00	00	3.11
11-20	01	10	1.86
21-30	04	22	10.56
31-40	17	37	30.43
41-50	06	15	17.39
51-60	12	08	12.42
61-70	07	08	18.63
>70	09	00	5.59

Females were found to be predominantly affected (57.1%) which is similar to the study conducted by Beena D et al¹² and Sharma I et al¹³. Damor NT et al⁴ and Shah H et al¹⁴ found that the non-neoplastic lesions of gall bladder were common than the neoplastic ones which is concordant with the present study.

Chronic calculus cholecystitis was the commonest histopathologic finding in present study, similar finding is observed by Savanur et al¹⁵, Dowerah et al¹⁶, Awasthi N¹⁷.

Amongst neoplastic lesions of gall bladder, adenocarcinoma was the most common type found on microscopy which is similar to the study done by Barbhuiya et al¹⁸, Dipti Kalita et al¹⁹, and Nissar Hussain et al²⁰. Malignancies of gall bladder are confirmed or discovered only on histopathological examination which is considered as a gold standard.

CONCLUSION:

Inflammatory lesions (96.5%) predominate over the neoplastic lesions

(3.5%). Chronic calculus cholecystitis (41%) was the most common histopathological diagnosis. Routine histopathological examination of all cholecystectomy specimens is strongly recommended for the detection of various gall bladder lesions. Incidental finding of carcinoma of gall bladder was noted hence surgeons and pathologist should be cautious while dealing with gall bladder lesions.

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