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Original Article

Histopathological Study of Cholecystectomy Specimens in Tertiary Care Centre - Two Year Study

Authors
Dr Ashok Yadav[1], Dr Priyanka Solanki[2], Prof. Dr C.V.Kulkarni[3], Dr Vipin Todase[4]
[1]Associate Professor, [2]Resident Pathology, [3]Professor and Head of Department, [4]Resident Pathology
Department of Pathology, Mahatma Gandhi Memorial Medical College, Indore, Madhya Pradesh, India

Abstract

Background: *Gallbladder stones are commonest disorder among gall bladder lesions and are usually asymptomatic. Its frequency in cholecystectomy specimens is not clear. The aim of this study is to report the morphological variants and frequency of different lesions in cholecystectomy specimens.*

Material and Method: *All cholecystectomy specimen received in 02 years duration in department of pathology, M.Y. Hospital, Indore. Total 106 cholecystectomy specimens were included in the study with age of patients varying from 18 years to 80 years. Detail clinical and other relevant history were taken followed by thorough gross examination and histopathological evaluation. Diagnosis was done by two different pathologists to rule out observer bias.*

Result: *Out of 106 cholecystectomy specimens studied, 99 (93.3 %) were inflammatory lesions , 05 (4.7%) were malignant and 01 case (0.9 %) was of benign neoplastic lesion. Among inflammatory lesions, 66 cases (62.2%) had gall stones, 24 cases (22.6%) were of chronic cholecystitis without cholelithiasis , 03 cases (2.8%) of acute cholecystitis. 03 cases(2.8%) of cholesterosis, and one case each of cholesterol polyp, pyocele, mucocele, and adenoma were found. Adenocarcinoma found in 05 cases (4.7 %), and one case included do not show any specific pathology.*

Conclusion: *Gall bladder lesions were common indication for surgical intervention and pathological evaluation. Most of them were inflammatory lesions with cholelithiasis, however thorough examination is important as these lesions may progress to fatal malignancies.*

Keywords: *Cholecystectomy, cholecystitis, adenocarcinoma.*

INTRODUCTION

Gallbladder disease is a term for several types of conditions that can affect gallbladder, majority being caused by inflammation. A gall bladder with stone frequently leads to cholecystitis. A gallstone, is a calculus or stone formed within the gallbladder as a concretion of bile components.(3) Risk factors include female sex, increasing age, pregnancy, oral contraceptives, obesity, diabetes mellitus, ethnicity , rapid weight loss.(4)

The histopathological features and incidence of gall bladder lesion varies depending on races, countries, and institutes. It is well known that gall bladder diseases affect mostly women and frequently in middle age. Chronic cholecystitis occurs after repeated episodes of acute cholecystitis and is almost always due to gallstones.[5] It often shows muscular hypertrophy, lymphocytic infiltration, and fibrosis. Benign and malignant tumors also occur in the gall

bladder.[1,2] However, frequency of these lesions is yet not clear. The aim of this present study is to report the morphologies and frequency of gall bladder lesions in cholecystectomies in the last 2 years in our pathology department at a tertiary care centre of Indore.

MATERIAL & METHODS

The gross specimens received were fixed in 10% formalin for 24 hours and multiple sections from each specimen were taken to include the representative area for histological examination. Sections were processed with a tissue processor and embedded in paraffin block which were cut in 5 micron thickness with the help of microtome.
Sections were stained with conventional Haemat-oxylin and Eosin (H&E) stain. Microscopic examination was done after staining sections with haematoxylin-eosin technique. Clinical records were also reviewed. The lesions were then classified and studied accordingly.

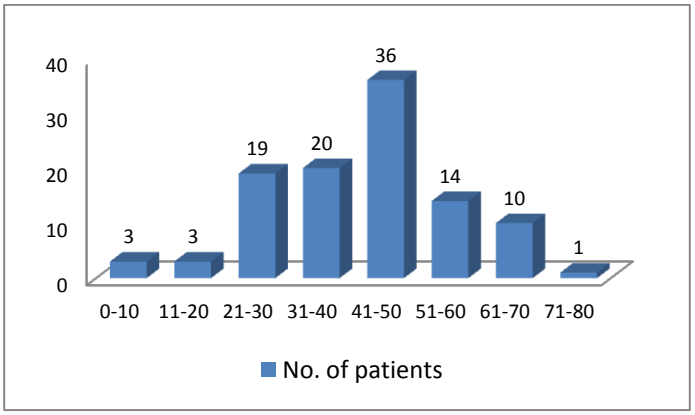
RESULT AND OBSERVATION

A total of 106 cholecystectomies were found. The age of patients ranged from 18 years to 80 years. Male to female ratio was 1:2.3. Of these, 66 cases (62.2%) had gall stones. The reason for cholecystectomies was acute cholecystitis in 3 cases(2.8%) microscopically characterised by neutrophilic infiltration in the mucosa with and fibroblastic proliferation (figure 1), gall stones with chronic cholecystitis in 66 cases(62.2%) characterised by varying degrees of mononuclear infiltration along with fibrosis(figure 2),03 cases of cholesterosis characterised grossly by multiple tiny yellow flecks known as strawberry gall bladder or histologically by foamy macrophages in lamina propria (figure 3) and gall bladder carcinoma in 05 cases(4.7%) microscopically characterised by ill-formed glands lined by one or a few rows of highly atypical cuboidal cells, surrounded by a cellular stroma often arranged concentrically (figure 4).

Table 1. Disease and lesions of gall bladder among the cholecystectomies

Disease	Number	Percentage
Normal	01	0.9
Acute cholecystitis	03	2.8
Chronic cholecystitis with cholelithiasis	66	62.2
Chronic cholecystitis without cholelithiasis	24	22.6
Pyocele	01	0.9
Mucocele	01	0.9
Cholesterosis	03	2.8
Cholesterol polyp	01	0.9
Adenoma	01	0.9
Adenocarcinoma	05	4.7

Lesions of gallbladder were most common in the 4th and 5th decades, with 36 cases (33.09%) occurring in the 4th decade and 14 cases (13.2%) occurring in the 5th decade (Graph 1). The minimum age of the patient with gall bladder lesion in our study was 6 yrs and maximum age was 73 yrs.



Graph 1 -This graph showing the various gall bladder lesions in different age groups.

Out of 106 cases we studied, Non- neoplastic lesions constituted 100 cases (94.3%) and neoplastic lesion constitute 5 cases (4.7%) with the ratio being 19:1.

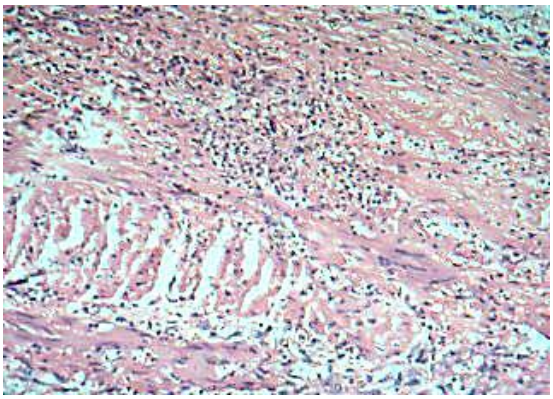


Figure 1-Gross (a) and microscopic picture (b) of Acute cholecystitis [6]

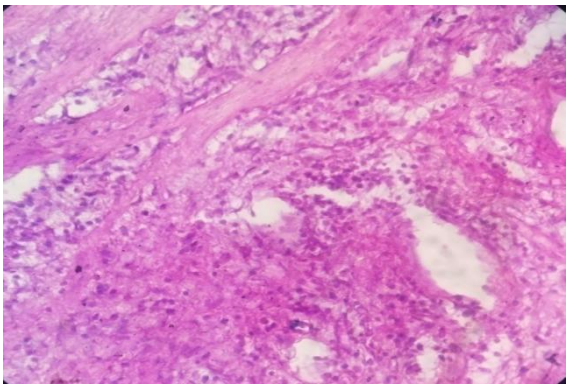


Figure 2-Gross (a) and Microscopic picture (b) of Chronic Cholecystitis(High power)

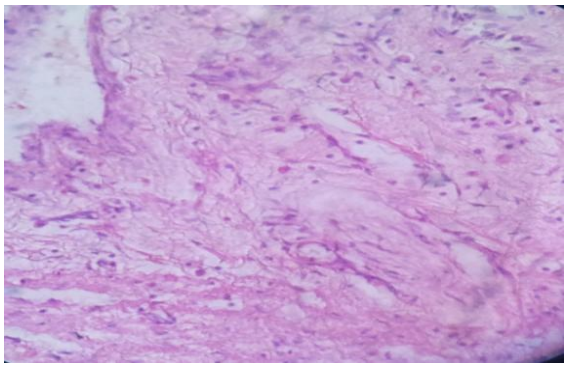


Figure 3-Gross (a) and Microscopic picture (b) of cholesterosis (High power)

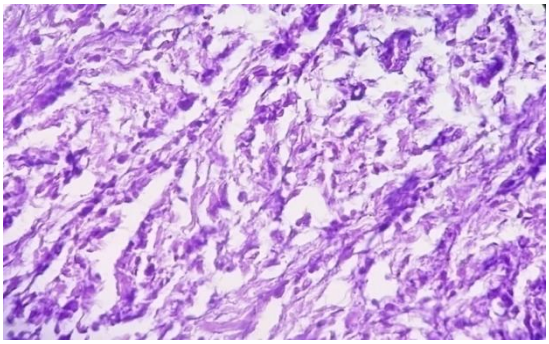


Figure 4-Microscopic picture of adenocarcinoma of gall bladder (High power)

DISCUSSION

Gallbladder is one of the organs having a wide spectrum of diseases ranging from congenital anomalies, calculi and its complications, non-inflammatory, inflammatory to the neoplastic lesions. So the classification of various histomorphological types of gallbladder lesions is important to categorize into non-neoplastic and neoplastic lesions of gallbladder.[13]

In the present study gallbladder lesions were more common in females than in males with a male to female ratio of 27:79 which was similar to other studies carried out by N. T. Damor a, et [14] , Tadashi Terada et al [15] , Dr. Gudeli Vahini, et.al [16], Asuquo et al [17] , Tantia et al [18] reported male to female ratio 1:2.3, 213:327 , 1:1.5, 1:5, 1:2.8 respectively.

N. T. Damor et al [14] and Khanna et al [19] reported that majority of non-neoplastic lesions of Gallbladder occurred in 3rd to 5th decades. While Bazoua et al [20] studied that neoplastic lesions developed in patients of age more than 50 yrs and maximum in age group 50 to 70 years. In the

present study lesions of gallbladder were most common in the 4th and 5th decades.

Khanna Rahul et al [19] reported ratio of non-neoplastic to neoplastic lesion was 16:1. Ojed et al [21] reported that 96 % non-neoplastic lesion and 4% neoplastic lesions with ratio of 24:1. N. T. Damor a, et [14] reported ratio of non-neoplastic to neoplastic lesion was (19:1). The present study is comparable to the above studies with the ratio of non-neoplastic to neoplastic lesion was 20:1.

Asuquo et al [17] reported that out of 18 specimens studied 9(50%) specimens shows calculous cholecystitis, 8(44.4%) have acalculous cholecystitis and 1(5.6%) has carcinoma of gallbladder. Shrestha et al [22] studied 668 specimens, among them 643(96.3%) have nonneoplastic lesions, 1(0.15%) has gallbladder adenoma of pyloric type, 22 (3.29%) have primary gallbladder malignancy, 2(0.3%) shows metastatic cholangiocarcinoma of gallbladder. D. Chattopadhyay et al [23] noted that in 23 post-cholecystectomy specimen 12(52.1%) have gallstones, 7(30.4%) have cholesterol polyps, 3(13%) have adenocarcinoma, 1(4.3%) has normal features of gallbladder on histology.

In the our study, among all the lesions of gallbladder, 66 cases (62.2%) were diagnosed as chronic cholecystitis with cholelithiasis. was the commonest histological finding which is comparable with above study.

CONCLUSIONS

Gall bladder lesions most commonly affect females of 3rd to 5th decades. The major histopathological changes are due to gall stones. According to our study in the Indore division ratio of non-neoplastic lesion to neoplastic lesion was 19:1.

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