

HISTOPATHOLOGICAL STUDY AND CLINICAL CORRELATION OF 30 SPECIMENS OF GALL BLADDER

Anatomy

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ABSTRACT

Objective – To study the correlation of the histopathological findings with the symptomatology, and clinical findings in 30 specimens of Gall bladders excised during cholecystectomies. **Methods** – A histopathological study of 30 specimens of gall bladder received after cholecystectomy was done. **Results** - Majority of patients were females in the age group of 41 to 45 with predominant symptoms presented of pain in the upper abdomen. The histological findings seen were chronic calculus cholecystitis (16 specimens), acute cholecystitis (3 specimens), recurrent calculus cholecystitis (5 specimens), chronic cholecystitis (3 specimens), calculus cholesterosis (1 specimen), xanthogranulomatous cholecystitis (1 specimen), acute gangrenous cholecystitis (1 specimen). **Conclusion** - Gallbladder diseases are predominantly seen in females in the age above 40 years. Gallstones are the major cause of cholecystitis. Histopathological examination is must in all cases of cholecystectomies to decide the further line of treatment.

KEYWORDS

Cholecystectomy, chronic calculus cholecystitis, chronic cholecystitis, acute cholecystitis

INTRODUCTION

Gallstone disease is a common health problem worldwide. It is commonly believed that bile stasis is the prime factor for gallstone formation. The function of the gallbladder is not only to store bile, but also to concentrate it during the interdigestive phase by means of salt-dependent water reabsorption. Epithelium of the gallbladder and biliary tract is exposed to high concentrations of potentially harmful exogenous and endogenous compounds excreted into primary bile. 3

All columnar epithelial cells are lined by a blanket of mucus, a native physiological gel-like secretion which separates the host mucosal cells from the external milieu. 4 The gallbladder mucus plays a regulatory role in cholelithiasis as it promotes the nucleation of stones. 5 Mucus, calcium and lipids act in concert to form the gallstones. 6 Gallbladder mucin is one of the key factors in gallstone formation. However, there is little information about the diversity of mucin secretion according to the stone composition. 7

A major causative agent for stasis is gallbladder dyskinesia which in turn may be a consequence of gallbladder wall pathology. 8 However, it was observed that gallbladder tension increased, rather than decreased during the early stage of gallstone formation. 9 Cholelithiasis produces diverse histopathological changes in gallbladder mucosa namely acute inflammation, chronic inflammation, glandular hyperplasia, granulomatous inflammation, cholesterosis, dysplasia, and carcinoma. 10

AIMS & OBJECTIVES

- To study the prevalence with respect to age, sex and clinical symptoms of gallbladder
- To study the relevance of histopathological evaluation of gallbladder

MATERIALS

- 30 specimens of Laparoscopic cholecystectomies
- Period of study – 20 months (January 2016 to August 2017)
- Details of the cases were studied under the following headings:

- Age & Sex
- Clinical history
- Investigations
- Gross features
- Histopathology
- Final diagnosis

METHODS

- Fixation - 10% formalin for 24-48 hrs.
- Tissues - Taken from the pathological lesions
- Processing - Yorco Automatic Tissue Processor

- Paraffin blocks
- Sectioning
- Staining
- Labelling and Mounting
- Study of the slide

Observations

Table 1- Age Distribution

Age group	No. of cases	Percentage
≤20	3	10
21-30	3	10
31-40	7	23.3
41-50	6	20
51-60	8	26.6
61-70	3	10
71-80	1	3.3

Table 2 – Sex distribution

Sex	No. of cases	Percentage (%)
Female	22	73.33
Male	8	26.66

Table 3: Common presenting symptoms

Sr. No.	Symptom	No. of cases	Percentage (%)
1	Pain in upper abdomen	22	73.33
2	Intolerance to food (fat diet)	4	13.33
3	Nausea/vomiting	1	3.33
4	Palpable and tender gall bladder	3	10

Table 4 - Common signs seen

Morphology	No of cases	Percentage %
Normal flask shape	3	10
Shrunken	20	66.67
Distended	7	23.33
Mean length	8.2 cm	(range 6-12cm)

Table 5 – Histopathological changes

Histopathological changes	Number of cases	Sex	Age (a- above 45yrs) (b- below 45yrs)	Percentage (%)

Chronic calculus cholecystitis	16	M - 5 F - 11	a - 11 b - 5	53.33
Acute cholecystitis	3	M - 2 F - 1	a - 1 b - 2	10
Recurrent calculus cholecystitis	5	M - 0 F - 5	a - 2 b - 3	16.6
Chronic cholecystitis	3	M - 1 F - 2	a - 0 b - 3	10
Calculus cholesterolosis	1	M - 0 F - 1	a - 1 b - 0	3.33
Xanthogranulomatous cholecystitis	1	M - 0 F - 1	a - 0 b - 1	3.33
Acute gangrenous cholecystitis	1	M - 0 F - 1	a - 0 b - 1	3.33

Figure 1 & 2, Figure 3 & 4 – Chronic Calculus Cholecystitis



Figure 5 & 6 - Histology of normal Gall Bladder

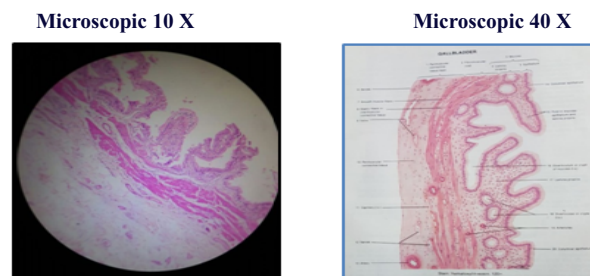


Figure 7 & 8 – Rokitsansky Aschoff Sinuses

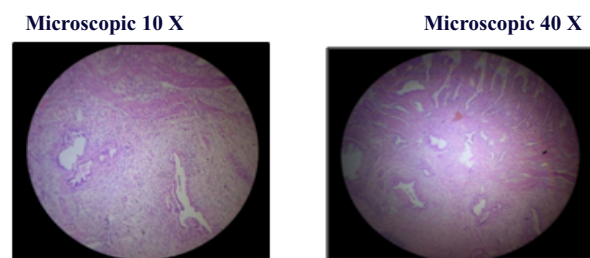


Figure 9 & 10 Chronic Calculus Cholecystitis - Transmural lymphocytes

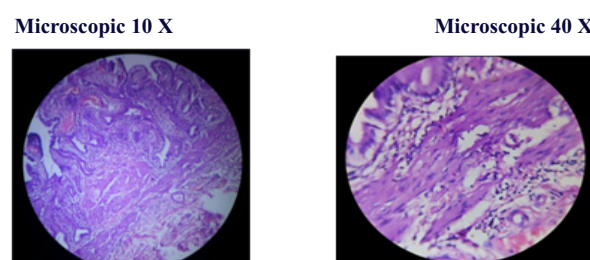


Figure 11 & 12 Acute Cholecystitis, Ulcerated mucosa - Mixed inflammation

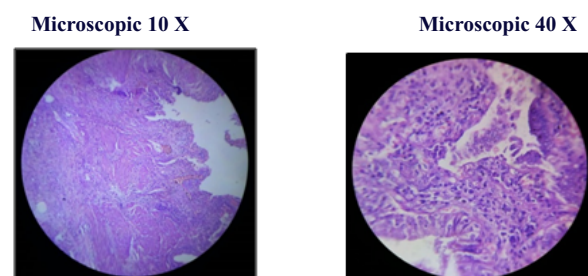


Figure 13 Acute Cholecystitis, Transmural inflammation and necrosis

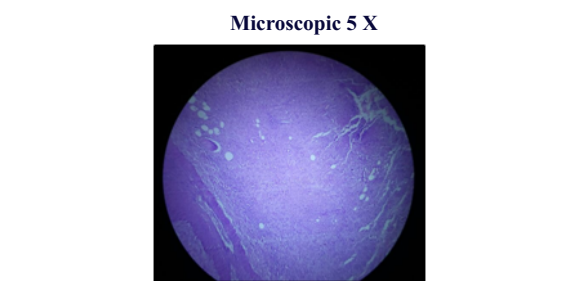


Figure 14 & 15 Recurrent Cholecystitis, Transmural Eosinophils

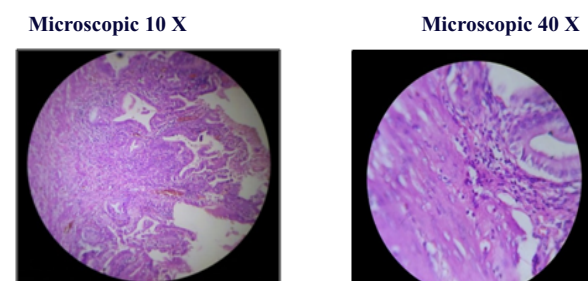
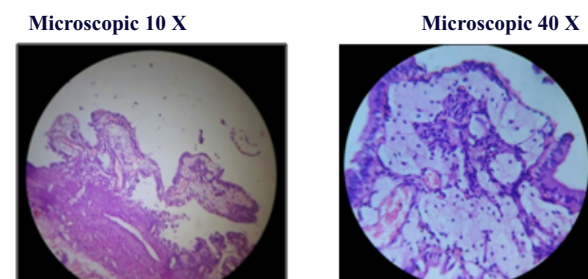


Figure 16 & 17 Calculus cholesterolosis - Mucosal lipid laden macrophages



DISCUSSION

Diseases of the gallbladder form an important component and are in fact the bread and butter of routine surgical practice. Though traditionally considered to be a disease of middle aged obese females, the stereotype does not always apply to clinical cases as it can occur in both younger and older age groups of either sex. The histopathological picture of cholecystitis is varied and interesting for validating the clinical diagnosis and confirming the findings of ultrasonography. Age incidence in our study is more in the 3rd to 5th decades which is in correlation with Khoo et al, Khanna et al, Abdul samad et al & Damor et al.

- The sex ratio of gall bladder diseases was as follows in the study conducted by Zoysa et al 1:3, Tania et al 1:2.8, & Damor et al 1:2.3. In our study the sex ratio – 1:3 (Males:Females).
- Presenting symptoms in our study was predominantly pain in upper abdomen. Talreja et al in their study also observed similar findings.
- Morphological changes more commonly seen were a Shrunken

gall bladder which correlated to the study conducted by Talreja et al.

Histopathological findings in our study were as follows

- Chronic calculus cholecystitis (16 specimens) 53.33%
- Acute cholecystitis (3 specimens) 10%
- Recurrent calculus cholecystitis (5 specimens) 16.6%
- Chronic cholecystitis (3 specimens) 10%
- Calculus cholesterolosis (1 specimen) 3.33%
- Xanthogranulomatous cholecystitis (1 specimen) 3.33%
- Acute gangrenous cholecystitis (1 specimen) 3.33%

CONCLUSION

Chronic cholecystitis is the commonest indication for cholecystectomy. Gall bladder pathology is more common in females than in males and is more common in the fourth and fifth decades of life. Most common presenting symptom is pain in upper abdomen. The study of the surgical specimen showed a shrunken gall bladder on gross examination and histological changes showed mononuclear infiltration and fibrosis, mucosal erosions and ulcerations. Mixed types of gall stones were the commonest findings. There was no difference in the histological changes based on either the number or the nature of the gall stones. But a positive correlation was found between the ultrasonological findings and the morphological and histological changes.

Conflict of interest - None

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