

THE SPECTRUM OF GALLBLADDER PATHOLOGY AT A TERTIARY CARE HOSPITAL : A RETROSPECTIVE STUDY

Histopathology

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ABSTRACT

Background: Gallstones are the commonest biliary pathology, the incidence ranging from 10% to 20% of the world population. Majority of biliary tract disease is attributable to cholelithiasis over 95%. Gallbladder stones are known to produce various histopathological changes in the gallbladder. **Aim:** To study spectrum of gallbladder diseases in cholecystectomy specimens and the incidence of various neoplastic and non neoplastic lesions occurring in gallbladder. **Materials and Methods:** The study was conducted from January 2020 to January 2023 in the Department of Pathology in our institution. A total of 200 cases of cholecystectomy specimens were evaluated. **Results:** Gallstones and associated diseases were more common in women within 4th to 5th decade, with a maximum number of patients being 41 to 50 years. Histopathologically the most common diagnosis was chronic cholecystitis followed by acute or chronic cholecystitis. There were 6 cases of acute cholecystitis, 5 cases of cholesterosis, 3 cases of choledochal cysts and one case of carcinoma. In chronic cholecystitis and cholesterosis female preponderance was observed while in all the other lesions male predominance was seen. Gallstones were present in 132 cases and significantly associated with various lesions. Pigment stones were most common. The present study carried out in our institution showed gallbladder malignancy was uncommon and was seen only in one case. **Conclusion:** Majority of the gallbladder lesions are inflammatory in origin, of which the most common disease being chronic cholecystitis in female of 30–40 years presenting with abdominal pain. Pigmented gall stones were found to be the most common etiology of chronic cholecystitis and malignancy of the gallbladder in this population is a rare occurrence.

KEYWORDS

Gallbladder, Carcinoma, Histopathology

INTRODUCTION

Gallstone disease is a common health problem worldwide. It is affected by variety of non neoplastic and neoplastic lesions.¹ Over 95% of biliary tract disease is attributable to cholelithiasis (gallstones). Cholelithiasis produces a variety of histopathological changes in gallbladder mucosa such as acute inflammation, chronic inflammation, cholesterosis, hyperplasia and carcinoma.² It is also one of the predisposing factors for the development of cancer of the gallbladder. Most of the times it is commonly diagnosed as an incidental histological finding following cholecystectomy for gallstone disease.³ It is important to analyze the histopathological changes associated with the gallbladder disorders in order to identify the incidence, prevalence, distribution as well as the histomorphological features. This study is directed with these objectives.

MATERIALS AND METHODS

The present histopathological study was a prospective study which includes a detailed analysis of all cholecystectomy specimens presenting at the Department of Pathology, between January 2020 and January 2023. The cases were drawn from Clinical Department of the hospital attached to Medical College. The age and sex of the patient, site of biopsy and other relevant clinical data were recorded. Patients of all ages were considered for the present study.

Statistical Analysis

Data regarding various etiologies of gallbladder lesions was collected and analyzed using statistical tools. Chi-square test will find association between spectrums of lesions. SPSS will be used for statistical analysis.

RESULTS

Total 200 cholecystectomy specimens were studied for a period of 3 years. Gallstones and associated diseases were more common in women within 4th to 5th decade as compared to men. The age of patients varied from 17 to 83 years, with a maximum number of patients being 41 to 50 years. (Figure 1)

In chronic cholecystitis and cholesterosis female preponderance was observed while in all the other lesions male predominance was seen. Gallstones were present in 132 cases and significantly associated with various lesions. Pigment stones were most common, followed by cholesterol and mixed stones. Histopathologically, (Table 1) the most common diagnosis was chronic cholecystitis followed by acute or

chronic cholecystitis. There were 6 cases of acute cholecystitis, 5 cases of cholesterosis, 3 cases of choledochal cysts and one case of carcinoma. The present study carried out in our institution showed gallbladder malignancy was uncommon and was seen only in one case which was diagnosed as adenosquamous carcinoma. (Figure 2)

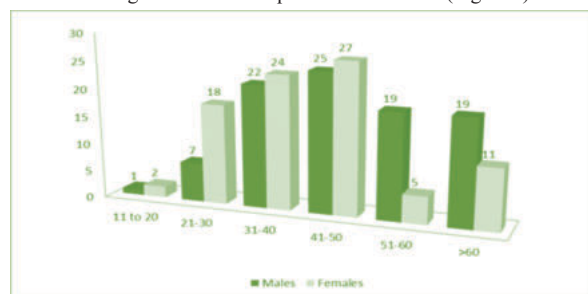


Figure-1; Bar diagram showing gender distribution in age groups

Table-1; Spectrum of gallbladder lesions

HP lesions	Present study
Acute cholecystitis	3.5%
Chronic cholecystitis	82%
Acute on chronic cholecystitis	10%
Choledochal cysts	1.5%
Cholesterosis	2.5%
Carcinoma	0.5%

DISCUSSION

The term cholecystitis refers to a group of disorders that vary in clinical, pathogenetic and pathological characteristics. Characterization of inflammatory pattern helps the pathologists to confirm the diagnosis. Out of 200 cases, 199 cases were non-neoplastic or inflammatory lesions and one case was malignant lesions. In all 82% of the cases were chronic cholecystitis. Most of the cases of chronic cholecystitis were associated with cholelithiasis. Chronic acalculous cholecystitis was much less common in our study. In the present study of 200 cases, there were 93 (46.5%) men and 107 (53.5%) women, which was consistent with Narendra et al.⁴, Selvi et al.⁵, and Memon et al.⁶. Out of 200 cases 77% patients were complaining of pain in the epigastrium, followed by pain and vomiting (32%). None of the

patients has presented with any evidence of malignancy clinically. This finding was going in correlation with studies done by Narendra et al.⁴ Naqvi et al. and Siddhiqui et al.⁸. Gallstones are a major cause for mortality and morbidity throughout the world. They are associated with various lesions like acute cholecystitis, chronic cholecystitis with its variants and gallbladder carcinoma. In the present study 132 cases had stones while in 68 cases there were no stones. Pigmented stones were more predominant 117 cases followed by 9 cases having cholesterol stones and 4 patients having mixed stones, which was similar to the study conducted by Selvi et al.⁹ who evaluates 78 cholecystectomy specimens out of which 65 cases had stones and 13 cases was presented with no calculi and majority were pigmented stones. In this study, all the cases had inflammation, in which predominant was lymphoplasmacytic infiltrate in 143 cases, mild lymphocytic infiltrate in 9 cases. 23 cases had mixed inflammation. Cholesterosis results from mucosal villous hypertrophy and a resultant accumulation of cholesterol esters and triglycerides in a diffuse or polypoid form in the macrophages present within the wall of the GB. In our study, cholesterosis was observed in 2.5% of the cases. A study conducted by Mondal et al. concluded the presence of the pathology in 2.9% of the patient population¹⁰. Choledochal cysts are uncommon congenital anomalies of the bile duct with increased risk of malignancy which increases with age, supposed to be 0.7% in the first decade of life to 14.3% after 20 years of age 13. Lin et al 14 reported a case of 7-year-old female with choledochal cyst associated with acute perforated acalculous cholecystitis. They postulated that the congenital defect lead to biliary stasis, which in turn induced the acalculous cholecystitis¹¹. Dysplasia was noted in 3 cases and neoplasia was seen in one case.

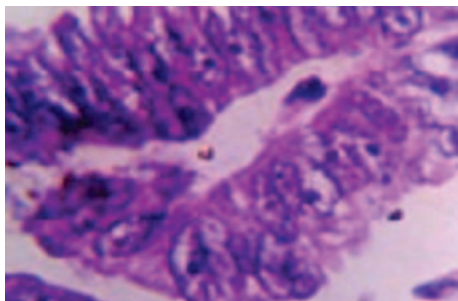


Figure 2- Gallbladder carcinoma

CONCLUSION

Most of the gallbladder lesions are inflammatory in origin, of which the most common disease is chronic cholecystitis. From this study it may also be concluded that chronic cholecystitis is the most predominant diagnosis in a female of 30-40 years presenting with abdominal pain. Pigmented gall stones were found to be the most common etiology of chronic cholecystitis. Malignancy of the gallbladder in this population is a rare occurrence. In addition to the direct conclusions from the study, it must be noted that prompt detailed histopathological analysis of the cholecystectomy specimens will help to confirm the benign nature of the disease or to detect any precursors of malignancy. If not detected early, these lesions can progress to GB adenocarcinoma. This will be decisive in the management and prognosis of the patient. Therefore, care must be taken to ensure meticulous macroscopic and microscopic evaluation by the pathologist.

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