

Histopathological Spectrum of Gallbladder Lesions in Cholecystectomy Specimens

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ABSTRACT

BACKGROUND: Gall Bladder is a very common organ to be affected by many pathological processes of which gall stones and inflammatory disorders constitute the most. More than 95% of biliary tract disease is attributable to gallstones. This spectrum also includes neoplasms and tumor like conditions which are uncommon.

AIM: To study the spectrum of histopathological lesions in gallbladder in cholecystectomy specimens.

MATERIALS AND METHODS: The study was conducted in the department of pathology at a tertiary care hospital for a period of two years from June 2016 to May 2018. A total of 177 specimens were studied.

RESULTS: In the present study, gallstones and related diseases were more common in women with maximum incidence in 4th and 5th decade of life. Among the two classes of gallstones, pigment stones were more common. Histopathological findings depicted that chronic cholecystitis was the most prevalent [162/177 cases] followed by Acute on Chronic Cholecystitis [7/177 cases], Acute Cholecystitis [2/177 cases], Empyema [1/177 cases] and Cholesterolosis [1/177 cases]. Besides these, Reactive Atypia [1/177 cases], Hyperplasia [1/177 cases] and Carcinoma [2/177 cases] were present among the spectrum of diseases. Both the cases of gall bladder carcinoma occurred in male patients in this study.

CONCLUSION: The study revealed that most of the lesions of gall bladder are inflammatory in origin due to underlying gall stones, of which the most common being chronic cholecystitis in females aged 30-40 years. The study also demonstrated that gall bladder carcinoma is a rare occurrence.

NOVELTY: In this study, gall bladder carcinoma occurred incidentally in one patient emphasizing the need for doing routine histopathological examination of all cholecystectomy specimens.

KEY WORDS: Gallstones, chronic cholecystitis, carcinoma, cholecystectomy

I. INTRODUCTION

Gall bladder, a component of biliary system, is a very common organ to be affected by many pathological processes of which gall stones and inflammatory disorders constitute the most. More than 95% of biliary tract disease is attributable to gallstones. This spectrum also includes premalignant and malignant conditions which are uncommon.

The gall bladder is an elongated or pear shaped sac, lies in a fossa on the inferior surface of right hepatic lobe. In adults, it is 7 to 10 cm long and 3 cm at its widest part and has capacity of 50 ml. It comprises of fundus, body and neck, is covered by serosa, except the portion in the liver fossa that merges with liver parenchyma. The lining mucosa, a layer of folded columnar epithelium and lamina propria of loose connective tissue, directly rests on muscularis propria with overlying subserosa and serosa. There is no muscularis mucosa or submucosa in the gallbladder wall.

Gall stone disease [cholelithiasis] is a commonest health problem throughout the world with india being no exception. It affects 10-20% of adult population. The vast majority of gallstones [>80%] are silent. It is a multifactorial disease. Risk factors include advancing age, ethnicity, female gender, obesity, gallbladder stasis and hereditary factors. Gallstones are classified as cholesterol stones and pigment stones based on their composition. cholesterol stones are common in western population while in india, pigment stones are more common.

Gall stones are responsible for chronic irritation of mucosal epithelium and is the main underlying cause for a number of histopathological changes like chronic cholecystitis, cholesterolosis and preneoplastic conditions like metaplasia and dysplasia, ultimately leading to carcinoma. Hence the patients with gallstones need timely follow up.

Carcinoma of gallbladder is the most common malignancy of the extrahepatic biliary tract and carries worse prognosis. Longstanding chronic inflammation by gallstones is considered an important risk in carcinogenesis. Histopathological examination is therefore mandatory in all resected specimens where surgery is done for other causes.

The present study is aimed at finding histopathological changes in gallbladder specimens and their association with gallstones.

II. MATERIALS AND METHODS

The study was conducted in the department of pathology at a tertiary care teaching hospital for a period of 2 years from June 2016 to May 2018. A total of 177 cholecystectomy specimens were studied. Autolysed specimens were excluded from this study.

The specimens were received in 10% neutral buffered formalin and fixed for 24 hours. After taking note of gross morphological details and for the presence of stones, full-thickness sections were taken from the fundus, body and the neck. Additional sections were taken from any suspicious lesions. After processing, embedding, sections of 4 microns thick were taken and stained with hematoxylin and eosin. The stained slides were then observed under the microscope for any pathological changes.

III. RESULTS

Over a period of 2 years, a total of 177 cholecystectomy specimens were examined. Age of the patients ranged from 11-80 years. Most common age group with gallbladder disease was 31-40 years seen in 47 cases [26.55%].

Females were more commonly affected with gallbladder disease [108 cases, 61.01%] compared to males [69 cases, 38.98%]. Female to male ratio was 1.56:1

On gross examination, gallbladder was normal in size in 105 cases, contracted in 70 cases and distended in 2 cases.

Gallstones were present in 144 cases. Of which, pigment stones were present in 108 cases and cholesterol stones were present in 36 cases.

Histopathological examination revealed non-neoplastic lesions were present in 175 cases which were common in 4th and 5th decade of life. Maximum number of cases were chronic cholecystitis [154/177 cases] followed by acute on chronic cholecystitis [7/177 cases], acute cholecystitis [2/177 cases] and cholesterosis [1/177 cases]. Besides these, reactive atypia [1/177 cases], hyperplasia [1/177 cases] were present among the spectrum of diseases. Gall bladder adenocarcinoma was present in 2 cases. Both the patients were male and pigment stones were present in the gallbladder specimens in both of these cases

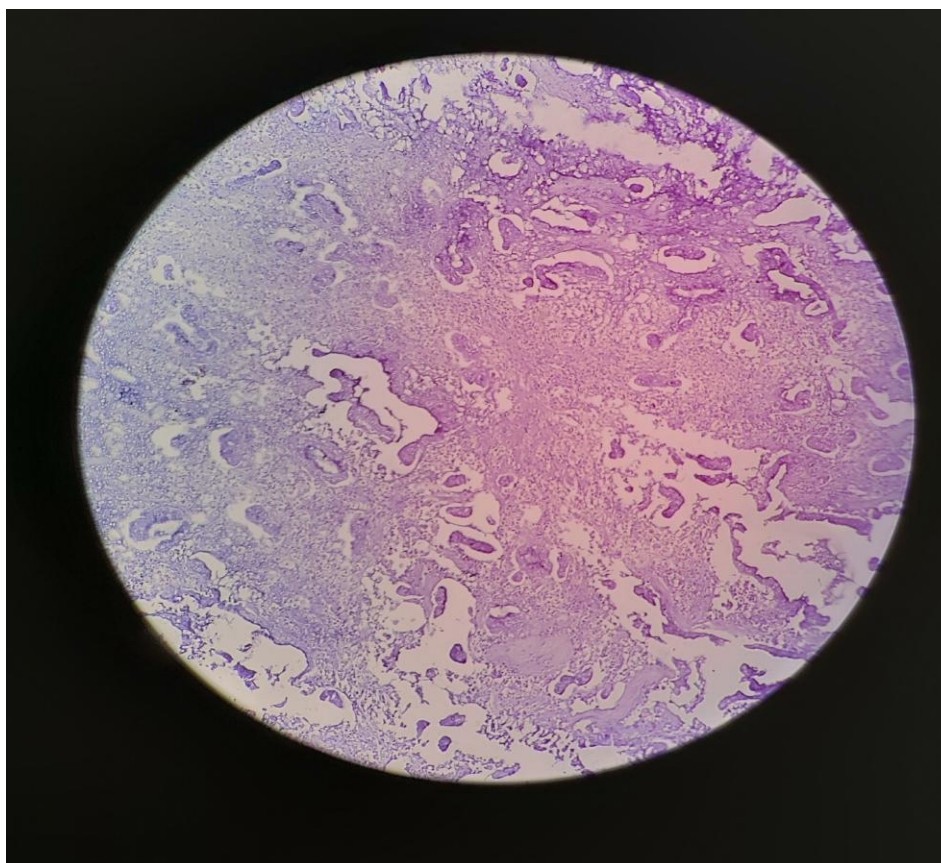


Figure 1. Gall Bladder Adenocarcinoma

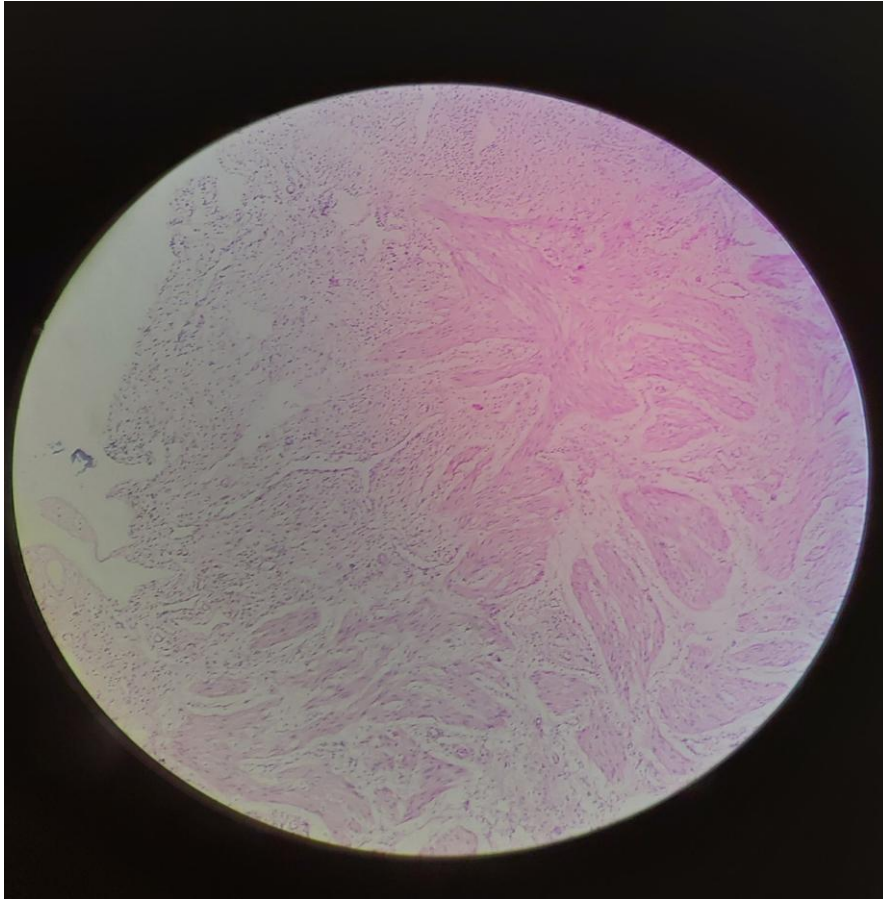


Figure 2. Chronic Cholecystitis

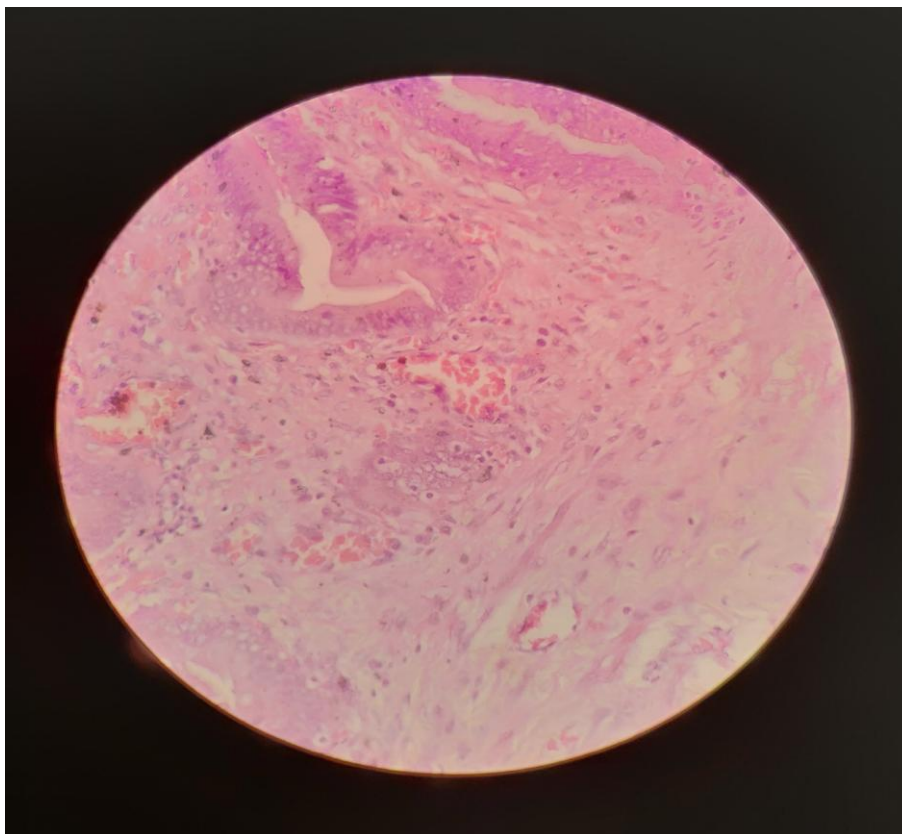


Figure 3. Cholesterosis

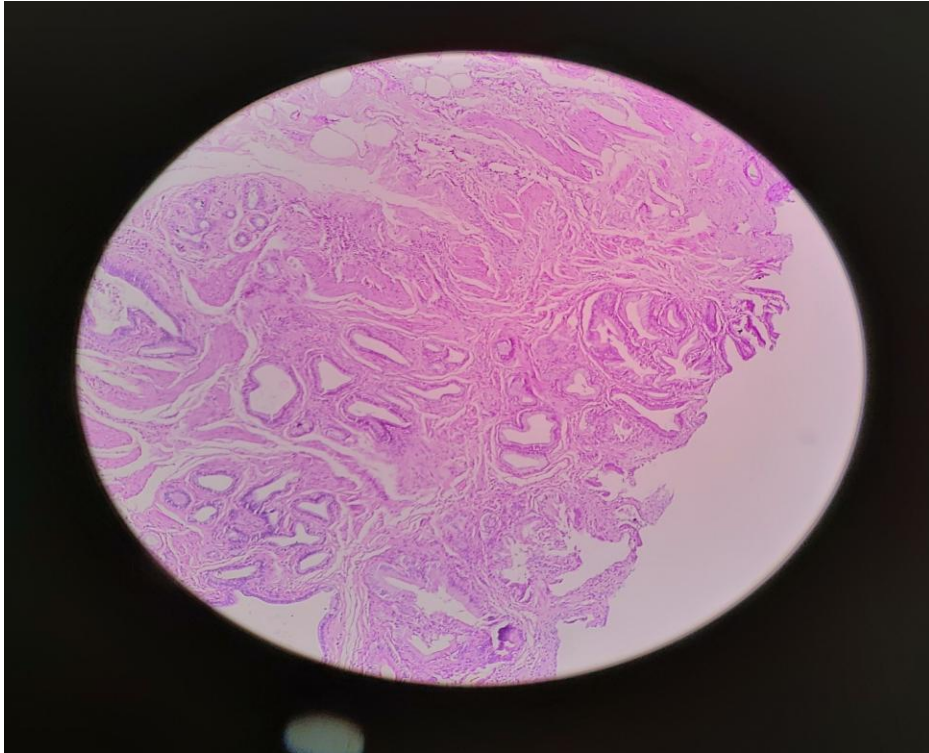


Figure 4. Reactive Atypia

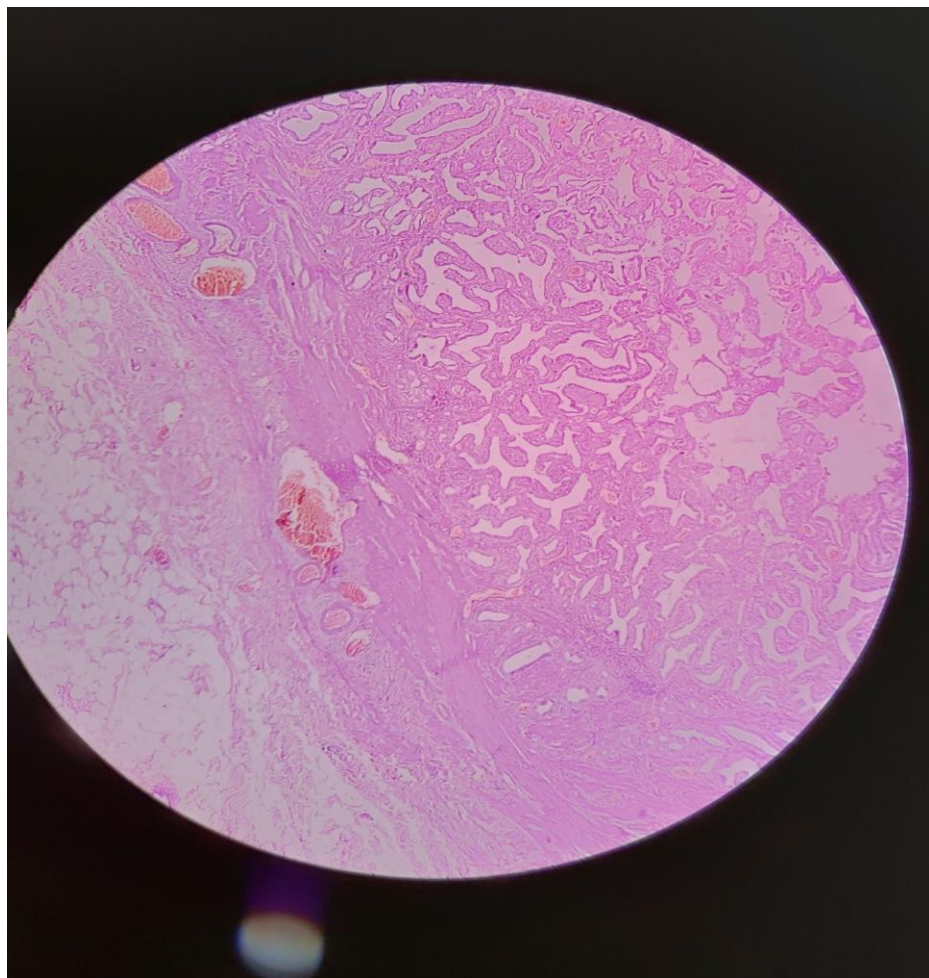


Figure 5. Papillary Hyperplasia

IV. Discussion

Cholelithiasis is a common clinical problem worldwide and removal of stone-laden gallbladders is among the most common surgical procedures. The presence of gallstones leads to wide variety of lesions both non-neoplastic and neoplastic. These include cholecystitis, cholesterolosis, premalignant conditions like metaplasia, hyperplasia, dysplasia and adenocarcinoma. Since incidental carcinomas of gallbladder are not rare, it is strongly recommended to do routine histopathological examination of all cholecystectomy specimens.

In the present study, patients age group ranged from 11 to 80 years. Most of the patients were in 4th decade [26.55%]. Majority of patients were female [61.01%] compared to males [38.98%].

Gallbladder was of normal size in 55.93% of cases, contracted in 39.54% of cases and distended in 4.51% of cases.

In the present study, gallstones were present in 144/177 cases. 33/177 patients presented without gallstones. Pigment stones were more common [108/144 cases] compared to cholesterol stones [36/144 cases].

Histopathological examination revealed maximum number of cases were chronic cholecystitis [157/177 cases].

Acute on chronic cholecystitis accounted for 7/177 cases where as acute cholecystitis was seen in 2/177 cases.

Empyema was seen in 1 case, gangrenous cholecystitis is seen in 2 cases and perforation is seen in 3 cases.

Cholesterolosis is seen in 1/177 case.

Chronic cholecystitis with reactive atypia was observed in 1 case.

Chronic cholecystitis with papillary hyperplasia was observed in 1 case.

Gallbladder carcinoma was diagnosed in 2 cases. Both the patients were male. Pigment gallstones were present in both the patients. The clinical diagnosis in one patient was choledocholithiasis without any suspicion of malignancy and on histopathological evaluation found evidence of gallbladder carcinoma.

V. Conclusion

1. Gallstones are associated with wide variety of lesions, most common being inflammatory conditions.

2. In gallstones of prolonged duration, the risk of malignancy increases.

Hence routine histopathological examination of all cholecystectomy specimens will help in early diagnosis and better prognosis for the patient.

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