



HISTOPATHOLOGICAL STUDY OF CHOLECYSTECTOMY SPECIMENS -A HOSPITAL BASED STUDY

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ABSTRACT

Cholecystectomy for gall bladder diseases is the most commonly performed surgical procedure worldwide. Routine examination of the gall bladder after surgery throws up interesting possibilities including carcinoma.⁽¹⁾

In the present study total 265 cases were included where 186 (70.18%) were females & 79 (29.82%) were males. The male to female ratio was 1:2.35 in our study.

Age distribution showed maximum patient in the age group of 31-50 years, 57 patients in both the decade. Histomorphologically, in our study maximum cases were of chronic calculous cholecystitis 210 (79.24%) cases followed by chronic cholecystitis 20 (7.54%) cases, acute on chronic cholecystitis 13 (4.90%) cases, acute calculous cholecystitis 8 (3.01%) cases.

Out of 265 cases 2 (0.77%) were adenocarcinoma. In our study we found one case of porcelain gall bladder, acute gangrenous cholecystitis, adenoma gall bladder & acute perforating cholecystitis.

Conclusion:

Our study strongly recommends routine histopathological examination of all cholecystectomy specimens.

KEYWORDS : Gallbladder Lesions, Adenocarcinoma Gall Bladder, Porcelain Gallbladder.

INTRODUCTION:

Cholecystectomy is one of the most commonly performed procedures globally, for both neoplastic as well as benign conditions.^(2,3) Disorders of gall bladder affect significant portion of population. It has a wide spectrum of diseases ranging from congenital anomalies, gall stones & its complications, inflammations, infection as well as benign & malignant neoplasms.^(4,5) Cholelithiasis is a common disorder affecting 10%-20% of adult population, common in females. The current change in lifestyles of individuals pertaining to indulgence in unhealthy fat rich food, lack of exercise, obesity, sedentary lifestyles & various other factors have once again focused our attention to gall bladder diseases.⁽⁴⁾ Gall bladder carcinoma ranks 5th in the gastrointestinal malignant tumours & due to non clinical presentation, it is rarely diagnosed at an early stage.⁽⁶⁾ However, cholecystectomy of benign conditions is performed based on ultrasound, clinical signs & symptoms. This leads to a fair chance of missing early malignant lesions such as carcinoma in situ & other early carcinomas.^(2,3)

Routine histopathology of the gall bladder post cholecystectomy has been most often regarded to be discarded. This again can be deemed a selective approach which can result in excluding valuable diagnosis of malignancies & other discrete pathologies such as porcelain gall bladder.⁽²⁾

AIMS & OBJECTIVES:

- To study the range of histopathological lesions in routine cholecystectomy specimens.
- To determine the age & sex distribution among patients with the lesions.
- To assess the need of histopathological examination on cholecystectomy specimens.

METHODS:

A retrospective study of 3 years from January 2015 to January 2018. This is study of 265 cholecystectomy specimens received in the department of pathology, The surgically resected cholecystectomy specimens were examined macroscopically & full thickness sections taken from fundus, body & neck of gall bladder were taken. Additional sections were taken from any grossly

abnormal area if present. Sections were then stain with H & E stain & examined microscopically.

INCLUSION CRITERIA:

All specimens of cholecystectomy received in our department were included in the study.

EXCLUSION CRITERIA:

Specimens without details of age/gender & autolysed specimens were excluded from the study.

RESULTS:

Total 265 cholecystectomy specimens were studied for various gall bladder lesions. In our study, the age of the patients ranged from 11 to 90 years with mean age of 50 years. Maximum number of cases were seen between 30 to 50 years, (Table 1), youngest being 16 years old female & eldest being 81 years old female. Gall bladder lesions were more common in females, 186 cases out of 265 which constitutes 70.18% (Table 2) & M: F ratio is 1: 2.35.

Out of 265 cases of gall bladder lesions commonest lesion being chronic calculous cholecystitis accounts for 210 cases (79.24%) (Table 3) followed by chronic cholecystitis 20 cases (7.54%) (Table 3)

Chronic cholecystitis is usually associated with cholelithiasis (Figure 1A & 1B) & acalculous form occurs due to repeated bouts of acute cholecystitis. Grossly shows fibrosis of wall & lymphocytic infiltrate.

TABLE 1: Age wise distribution of gall bladder lesion

Age	Cases	%
11-20yrs	04	1.50
21-30yrs	48	18.11
31-40yrs	60	22.64
41-50yrs	60	22.64
51-60yrs	48	18.13
61-70yrs	30	11.32
71-80yrs	14	5.28
81-90yrs	01	0.37
Total	265	100

TABLE 2: Sex wise distribution of gall bladder lesions

Sex	No. of cases	%
Female	186	70.18
Male	79	29.82

In our study acute on chronic cholecystitis was seen in 13 cases (4.90 %), acute acalculous cholecystitis in 8 cases (3.07%). 3 cases(1.13%) of xanthogranulomatous cholecystitis were observed in our study.histologically showed dense fibrosis,foamy macrophages. 3 cases (1.13%) of follicular cholecystitis(Table 3), histologically showed prominent lymphoid follicles in the lamina propria.

In present study neoplastic lesions of gall bladder includes 1 case (0.37 %) of polyp & 2 cases (0.77 %)of adenocarcinoma. Polyp on microscopy showed -polypoidal lesion with small tightly packed tubules lined by single layer of columnar epithelium.

TABLE 3: Various lesions of Gall Bladder

Lesions of Gall Bladder	No. of cases	Percentage
Chronic Caculous Cholecystitis	210	79.24
Chronic Cholecystitis	20	7.54
Acute On Chronic Cholecystitis	13	4.90
Acute Calculous Cholecystitis	8	3.07
Xanthogranulomatous Cholecystitis	3	1.13
Follicular Cholecystitis	3	1.13
Adenocarcinoma	2	0.77
Acute Gangrenous Cholecystitis	1	0.37
Adenoma	1	0.37
Acute Perforating Cholecystitis	1	0.37
Duodenal Fistula	1	0.37
Porcelain GB	1	0.37
Mucinous Metaplasia	1	0.37

Among 2 cases of adenocarcinoma in our study, one case was poorly differentiated adenocarcinoma in a 42 year old female,presented with pain in abdomen. Ultrasonographic findings were acute acalculous cholecystitis. Gross examination of the lesion showed thickened wall & ulcerated growth. Microscopic examination showed islands, nests & sheets of malignant tumour cells invading the gall bladder wall.(Figure 3A & 3B).

Other case was of papillary carcinoma in a 65 year old male . presented with pain in abdomen. MRCP findings showed distended gall bladder with thickened wall & few polypoidal areas ? neoplastic lesion. On gross examination it showed polypoidal growth. Microscopy of the same revealed papillae lined malignant epithelial cells at places arranged in glandular pattern.



FIG 1A: GROSS- Thickened wall, calculus & duodenal fistula
FIG 1B: GROSS- Impacted stone at neck

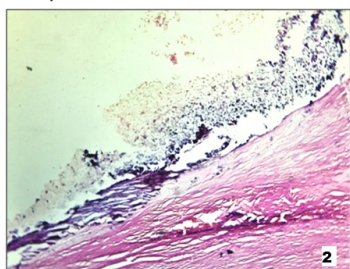


FIG 2: (H & E, 40x) Porcelain Gall bladder Microscopy- extensive dystrophic calcification in the wall

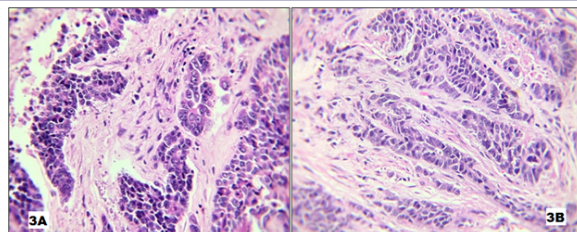


FIG.3A & 3B (H & E, 40x) Adenocarcinoma gall bladder - islands, nests & sheets of malignant tumour cells invading the gallbladder wall

In this study we also encountered specimens with complications of chronic cholecystitis like porcelain gall bladder. Grossly it was hard to cut & calcified, filled with multiple yellow stones. On microscopy it showed extensive dystrophic calcification in the wall.(Figure 2). Each 1 case of acute gangrenous cholecystitis,perforating cholecystitis, duodenal fistula & mucinous metaplasia with reactive atypia was also seen in the study.(Table3)

DISCUSSION

Gall bladder cancer continues to be a very rare entity. Even though some evidence suggests the possibility of diagnosing this malignant disease before pathology analysis , most centres continue to send every extracted gall bladder to the pathology department for its routine analysis. (4)

A sample of 265 cholecystectomy specimens received in the department of pathology, from January 2015 to January 2018 were taken for the study purpose.

In this study, the age of the patients ranged from 11 to 90 years with mean age of 50 years. maximum number of cases were seen between 30 to 50 years, similar to Roshan verma et al (7) Youngest being 16 years old female & eldest being 81 years old female.

In present study lesions of gall bladder were more common in females, ratio was 1: 2.35 which was similar to Sharma. I et al (1:2.8) (11) in other studies it was little higher Roshan Verma et al (1:3.91), (7) Ram Krishan Sharma et al (1:5). (4)

This study showed majority of the patients were found to have presented with pain in the abdomen, right hypochondrium pain associated with nausea. (2,8,9)

The most common histopathological diagnosis in our study was chronic cholecystitis 230 (88.67%), similar to Sharma I et al (86.20%), Ram Krishan Sharma et al (89.95%), Kumbhakar D et al (86.25%) (1,4,10)

Out of 235 cases of chronic cholecystitis, gall stone was associated with 210 cases (79.24%) which is similar to Ram Krishan Sharma et al (75.8%). (4)

Acute on chronic cholecystitis were 13 cases (4.90%).In present series acute calculous cholecystitis was found in 8 (3.01%).Chronic follicular cholecystitis 3 cases (1.13%) & xanthogranulomatous cholecystitis 3 cases (1.13%), Sharma I (1.3%), Ram Krishan Sharma (1.8%). (1,4)

Xanthogranulomatous cholecystitis is a rare form of chronic cholecystitis which mimics gall bladder cancer although it is not cancerous. (11,12).

It was first discovered & reported in the medical literature in 1976 by JJ McCoy, Jr., & colleagues. (11,13) In this study xanthogranulomatous cholecystitis was seen in 3 cases (1.13%) which was correlating with Sharma et al & Ram Krishan Sharma et al. (1,4)

We also encounter rare complications of chronic cholecystitis like Porcelain gall bladder. (14) Porcelain gall bladder, associated with significant fibrosis & scarring(15) is a premalignant condition with a risk of malignancy varying between 4% to 22%. (16,17)

Other complications were acute perforating cholecystitis, acute gangrenous cholecystitis, Chronic calculous cholecystitis with duodenal fistula, mucinous metaplasia & reactive atypia 1 case each.^(14,18,19)

In this study, carcinoma of gall bladder was found in 2 cases (0.75%), which is similar to Sharma I et al (0.94%) The incidence of gall bladder was considerably low compared to other studies, Vipin K et al (3.87%), Ram krishan Sharma et al (3.47%).^(1,4,20) Low incidence of malignancy in our patients can also attributed to increased acceptance & early reporting for laparoscopic cholecystectomy. In this study one case of adenocarcinoma presented with pain in abdomen & on USG showed acalculous cholecystitis. It was incidental finding on histopathology. Studies have shown that incidental gall bladder carcinoma is found in about 0.5-1.1% of cholecystectomies for gall stone diseases.^(21,22) Gall bladder cancer is the most common cause of death from biliary malignancies. The incidence is reported to be higher in certain geographic areas like Karachi to Kolkata belt in the Indian subcontinent.⁽²³⁾

CONCLUSION:

The incidence of chronic calculous cholecystitis was found to be 88.86% with female preponderance with mean age of 50 years. Our study strongly recommends routine histopathological examination of all cholecystectomy specimens to detect various histopathological variants of chronic cholecystitis & their complications & to detect incidental carcinoma of gall bladder which helps in their treatment & prognosis.

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