

A HISTOPATHOLOGICAL STUDY OF GALLBLADDER AFTER CHOLECYSTECTOMY

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ABSTRACT

BACKGROUND

Gall bladder disease is not an uncommon disorder. Most of the cases admitted in the hospitals require surgical intervention. Routine examination of the gall bladder after cholecystectomy shows different histopathological changes ranging from inflammation to premalignant and carcinoma. Although gall bladder disease is most often found in women, men may have this condition as well.

The objectives of the study are-

- 1) To study the histopathological changes in gall bladder surgically removed in surgery department of MGM Medical College Hospital, Jamshedpur.
- 2) To find out the incidence of carcinoma and other gall bladder diseases in routine cholecystectomies.

MATERIALS AND METHODS

The present study is based on histopathological analysis of 174 cases of cholecystectomy specimens from January 2015 to December 2016 in the Dept. of Pathology, MGM Medical College and Hospital, Jamshedpur, Jharkhand.

RESULTS

In our research, 174 cases were studied, out of which 46 cases were male and 128 cases were female. Female to male ratio was 2.8:1. Gall bladder cancer was 0.57%.

CONCLUSION

Present study firmly suggests the routine histopathological examination of all cholecystectomy specimens for detection of various types of chronic cholecystitis and also of incidental carcinoma of gall bladder.

KEYWORDS

Histopathology, Gall Bladder Carcinoma, Cholecystectomy.

HOW TO CITE THIS ARTICLE: Paul SN, Soreng EA. A histopathological study of gallbladder after cholecystectomy. J. Evid. Based Med. Healthc. 2018; 5(34), 2468-2471. DOI: 10.18410/jebmh/2018/509

BACKGROUND

Gall bladder is a pyriform sac attached in a fossa on the inferior surface of the right lobe of liver. Its upper surface is attached to liver by connective tissue and the under-surface and sides are covered with peritoneum.

It is state-blue coloured, 7 to 10 cm long, 3-4 cm in width and its capacity is 50 ml. It is divided into fundus, body and neck.

The gall bladder wall has three layers, mucosa, muscle layer and serosa. Gall bladder has no muscularis mucosa. The serosa layer is derived from the peritoneum.

The fibromuscular layer is a thin layer of fibrous tissue, mixed with non-striated muscular fibers.

The mucous membrane is made up of tall columnar cells. The epithelium is thrown into multiple folds and gives

the gall bladder characteristic appearance under the microscope.

Gall bladder diseases are classified broadly into three groups: - i) Congenital, ii) Inflammatory, iii) Tumor of gall bladder i.e. benign and malignant.

Again, the inflammatory diseases are divided into i) acute ii) chronic calculous and non-calculous cholecystitis and iii) cholesterosis.

Most of the malignant tumours of the gall bladder are adenocarcinoma and rarely adenosquamous carcinoma, small cell carcinoma, squamous cell carcinoma and sarcomas. Gall stone disease affects 10-15% of the western population^{1,2} with an annual incidence of 1 in 200.¹

MATERIALS AND METHODS

Present study was carried out in the pathology department of MGM medical college and hospital, Jamshedpur, Jharkhand, in the period of two years from January 2015 to December 2016. Total of 174 cholecystectomy specimens were studied during this period. The specimens fixed in 10% formalin were received from the department of surgery of MGMMCH.

Financial or Other, Competing Interest: None.

Submission 02-08-2018, Peer Review 06-08-2018,

Acceptance 17-08-2018, Published 20-08-2018.

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DOI: 10.18410/jebmh/2018/509



Each specimen has been studied under the following headings: -

- Age and sex of the patients from whom gall bladder were removed.
- Presence or absence of gall stones.
- Naked eye examination of gall bladder including size, shape, thickening of wall, any visible growth or suspicious area, colour of mucous membrane and lastly for evidence of cholesterosis without any gross abnormality in the gall bladder, three sections were taken including fundus, body and neck.

If any gross abnormality is in the gall bladder, more sections were taken. Haematoxylin and eosin staining was done and then the slides were mounted with D.P.X. and examined under microscope. Finally, the histopathology findings were noted and prepared the report.

RESULTS

Female	Male	Male and Female Ratio	Total no. of Cases
128 (73.6%)	46 (26.4%)	2.8: 1	174
Table 1. Showing the Sex-Wise Incidence of Cases in General			

Table 1 shows sex distribution of 174 cases of which 128 cases were female and 46 cases were male. The female:male ratio was 2.8:1 in the present study.

Age Group (in year)	Total No. of Cases	Percentage
10-20	5	2.9
21-30	40	23
31-40	41	23.6
41-50	42	24.1
51-60	24	13.8
> 61-70	22	12.6
Total	174	100
Table 2. Showing the Age Wise Incidence of Case in General		

In the present series, the maximum number of cases were from 41 to 50 years of age group (24.1%) followed by 31 to 40 years of age group (23.6%).

Name of Disease	Number of Cases	Percentage
Chronic Calculous Cholecystitis (Figure 1)	150	86.2
Chronic Cholecystitis with Evidence of Cholesterosis (Figure 2)	7	4.0
Follicular Cholecystitis	2	1.2
Acute Calculous Cholecystitis	3	1.7
Acute Acalculous Cholecystitis	1	0.57

Chronic Cholecystitis with Evidence of Intestinal Metaplasia	1	0.57
Gall Bladder shows Poor Presentation with Autolytic Changes and Feature of Chronic Cholecystitis	3	1.7
Xantho Granulomatous Cholecystitis	2	1.2
Chronic Cholecystitis with Dysplastic Changes	2	1.2
Chronic Cholecystitis with Non-specific Lymphadenitis	1	0.57
Eosinophilic Cholecystitis	1	0.57
Adenocarcinoma of Gall Bladder (Figure 3)	1	0.57
Table 3. Showing the Relative Frequency of Gall Bladder Diseases After Cholecystectomy		

Table 3 shows histopathological variants of 174 cases in the present study. Maximum cases were of chronic calculous cholecystitis (86.2%) followed by chronic cholecystitis with evidence of cholesterosis (4%). One case of adenocarcinoma was detected out of 174 cases.



Figure 1. Chronic Cholecystitis Revealing Loss of Epithelium at Different Places and Infiltrations of Inflammatory Cells in Different Layers

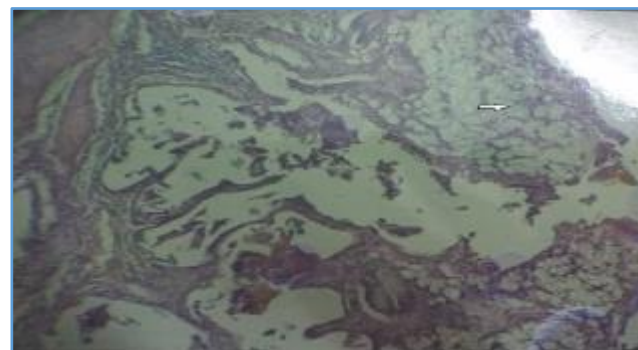


Figure 2. Chronic Cholecystitis with Cholesterosis (Arrow Mark)

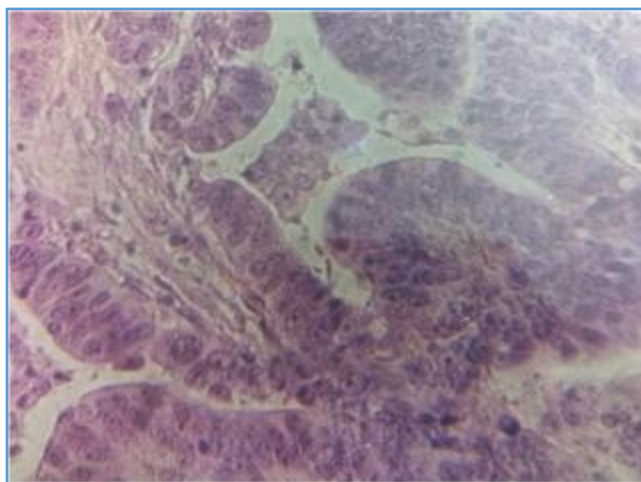


Figure 3. Showing Pseudostratification of Epithelial Layer with Cellular and Nuclear Pleomorphism (Well Differentiated Adenocarcinoma).

DISCUSSION

In the present study, attempts have been made to know the frequency of different gall bladder diseases in respect to age, sex, association with gall stones and histological features. The present observation was compared with the available literature.

The lesions of gall bladder were more common in females than in males with a female: male ratio of 2.8:1 (Table 1) which are similar to other studies which showed (2.8:1) and (3.1).^{3,4}

Out of 174 cases 150 (86.2%) cholecystectomy specimens belonged to chronic calculous cholecystitis and other variants were 1.2% follicular cholecystitis, 4% chronic cholecystitis with cholesterosis, 1.2% Xanthogranulomatous cholecystitis, 0.57% eosinophilic cholecystitis, 1.2% chronic cholecystitis with dysplastic changes, 0.57% chronic cholecystitis with non-specific lymphadenitis. Studies have also been reported that majority of the non-neoplastic lesions of the gall bladder occurred in 3rd and 5th decades,^{5,6} which is similar to present study (table 2). After repeated episodes of acute cholecystitis, chronic cholecystitis occurs and this is due to gall stones.⁷ Chronic cholecystitis may be asymptomatic, may be severe case of acute cholecystitis or may lead to a number of complications like gangrene, perforation or formation of fistula with intestine.^{8,9}

Xanthogranulomatous cholecystitis mimics gall bladder cancer although it is not malignant lesion.^{10,11} It was first noticed and reported in the medical books in 1976 by J.J. McCoy Jr, and colleagues.^{10,12}

Gall bladder cancer starts from dysplastic mucosa to carcinoma-in-situ and then to invasive carcinoma.⁵ Four Patients who attended surgical emergency with severe abdominal pain underwent laparoscopic cholecystectomy. Histomorphological examination revealed 01 (.57%) of these cases as acute acalculous cholecystitis while 03 (1.7%) were diagnosed as acute calculous cholecystitis.^{13,14}

On histopathological examination only 01 (.57%) case was reported as adenocarcinoma of gall bladder out of 174 cases in present study. Gall bladder cancer is the most

common cause of death in world wide.⁸ But the incidence of adenocarcinoma of gall bladder is higher in Karachi and some areas of Kolkata.^{15,16,17,18}

In present series, no incidence of benign neoplasm and congenital anomalies has been encountered.

Lower incidence of carcinoma in the present study may be attributed largely to the small number of cases and shorter study period.

CONCLUSION

The present study firmly recommends routine histomorphological examination of all cholecystectomy specimens for detection of various types of chronic cholecystitis and also of incidental carcinoma of gall bladder which helps in their treatment and prognosis.

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