



HISTOPATHOLOGICAL EVALUATION OF ROUTINE CHOLECYSTECTOMY SPECIMENS WITH SPECIAL EMPHASIS ON INCIDENTAL CARCINOMA AND DYSPLASIA: A 3 YEAR RETROSPECTIVE STUDY IN A TERTIARY CARE CENTRE IN NORTH EAST INDIA

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ABSTRACT

Introduction: Cholecystectomy is one of the most common surgeries performed. This study aimed to analyse the histopathological spectrum of all gallbladder specimens with special emphasis on incidental diagnosis of dysplasia and carcinoma.

Materials and methods: Retrospective analysis was done on blocks and slides of all cholecystectomy specimens received during October 2014 to September 2017 in our institution. All known carcinoma cases were excluded.

Results: Out of 3748 cholecystectomy specimens studied, 2911(77.67%) patients were female and 837(22.33%) patients were male. Histopathological analysis showed 3701 benign cases, 11 cases of dysplasia and 36 cases of gallbladder carcinoma. Dysplasia and carcinoma cases peaked in the age group of 41-50yrs. The incidence of incidental gallbladder carcinoma in our study was 0.96%.

Conclusion: Histopathology of gallbladder helps to assess non-neoplastic and precancerous changes. In a high risk zone, all gallbladder specimens should be subjected to histopathology so that incidental carcinoma is not missed.

KEYWORDS : Cholecystectomy, incidental carcinoma

Introduction:

Carcinoma of the gallbladder is a relatively rare malignancy of the gastrointestinal tract. It shows marked geographical variation worldwide as well as within the Indian subcontinent.¹ Data from the national cancer registry programme has found one of the highest age-adjusted incidence rates of gallbladder carcinoma in females of Kamrup (Urban) district.² Gall bladder carcinoma is highly malignant with a poor survival rate. It is diagnosed mostly in advanced stages due to non specific signs and symptoms.³ Most of the time, it may be diagnosed as an incidental finding on routine cholecystectomy specimens. Cholelithiasis, chronic cholecystitis and epithelial dysplasia have been cited as risk factors. In the present retrospective study, we analyzed the histopathological spectrum of all gallbladder specimens received in our institution for the past 3 years with special emphasis on incidental diagnosis of dysplasia and carcinoma.

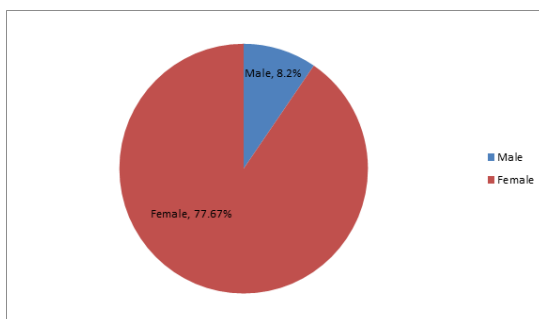
Materials and methods:

The study was a hospital based retrospective study conducted in Gauhati Medical College and Hospital from October 2014 to September 2017. The clinical details were obtained from hospital records and department registries. All known cases of gallbladder carcinoma were excluded from the study. Blocks and slides were retrieved from the archives and reviewed.

Results:

A total of 3748 patients underwent surgery for gallbladder removal during the study period. Out of these, 2911(77.67%) patients were female and 837 (22.33%) patients were male, giving us a M:F ratio of 1:3.5.(Figure 1)

Fig 1:Pie diagram showing sex wise distribution of cases.



On histopathological analysis, it was found 98.75% cases were benign (3701/3748) with maximum cases being diagnosed as chronic cholecystitis. 11 cases (0.29%) were diagnosed with mild (4 cases), moderate (3 cases) and severe dysplasia (4 cases). 36 cases (0.96%) had a histopathological diagnosis of gallbladder carcinoma. (Figure 2,3)

Fig 2:Pie diagram showing histopathological distribution of cases.

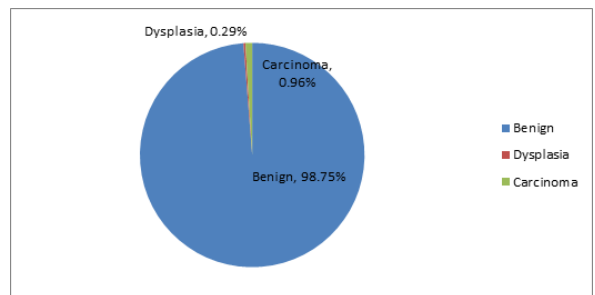
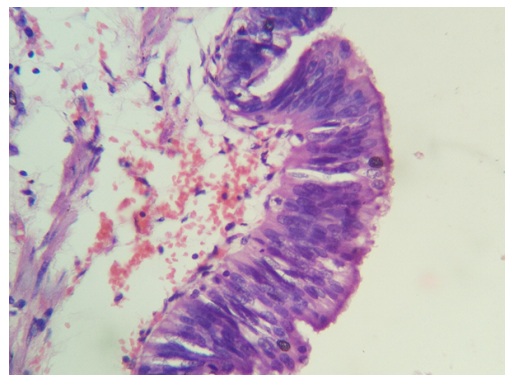


Fig 3: High grade dysplasia of gallbladder (40X, H and E)



Among the gallbladder carcinoma cases, we had one case of mucinous adenocarcinoma, 15 cases of well differentiated adenocarcinoma (Figure 4), 10 cases of moderately differentiated carcinoma, 3 cases of poorly differentiated adenocarcinoma (Figure 5) and 7 cases of papillary adenocarcinoma.(Figure 6)

Fig 4: Well differentiated adenocarcinoma of gallbladder (10X, H and E)

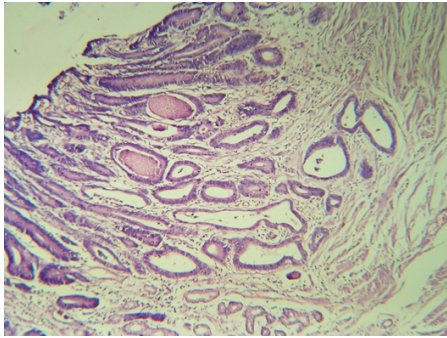


Fig 5: Poorly differentiated adenocarcinoma of gallbladder (10X, H and E)

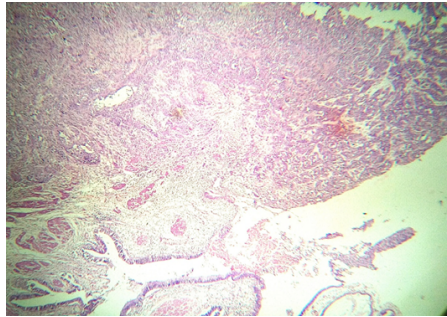
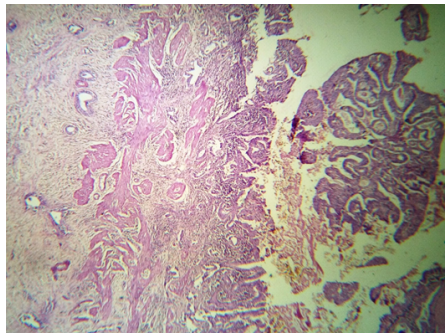


Fig 6: Papillary adenocarcinoma of gallbladder (10X, H and E)



Maximum benign cases were found in the age group of 31-40 years (Table 1). The peak age group for dysplasia and carcinoma cases both was 41-50 years. The carcinoma cases ranged from 30 years to 69 years of age. The dysplasia cases were found from 35 years to 65 years. Of the 36 carcinoma cases, only 3 cases were males, rest were females (M:F= 1:11).

Table 1: Age wise distribution in various histopathological entities.

Age group (in years)	Benign	Dysplasia	Carcinoma
0-10	18	0	0
11-20	201	0	0
21-30	954	0	2
31-40	1005	2	5
41-50	839	5	16
51-60	456	2	10
61-70	186	2	3
71-80	33	0	0
81-90	9	0	0
Total	3701	11	36

All the 36 carcinoma cases were incidental findings on histopathology. The incidence of incidental gallbladder carcinoma in our study was thus 0.96%.

Discussion:

Carcinoma of the gallbladder is almost always diagnosed at an advanced stage. Misra et al have given a definition of “surprise or incidental” gallbladder cancer as gallbladder carcinoma which is found on histopathology after the gallbladder has been removed for

symptomatic benign gallbladder disease.⁴ Despite the availability of newer modalities of investigation and careful examination, many cases of incidental carcinoma are still missed even in a tertiary health care centres.^{5,6} The reported incidence of incidental gallbladder carcinoma is 0.35% to 2%.⁷⁻⁹

The present study found incidental gallbladder carcinoma in 0.96% of cases with a marked female preponderance. Sangwan et al¹⁰ reported an incidence of 1.9% with a female preponderance with the youngest case being 30 years of age, similar to our study. Mittal et al¹¹ retrospectively studied 1312 cases and reported 1% cases of incidental gallbladder carcinoma with a female predominance (84%). Pradhan et al¹² found incidental carcinoma in 2.63% cases with female dominance (4:1). Mathuret al¹³ also reported incidental carcinoma in 2% cases all of whom were females.

There are contrasting viewpoints regarding the practicality of routine histopathological assessment of all cholecystectomy specimens. Some authors consider it unjustified in the face of increased workload of the pathologist and low incidence of incidental gallbladder carcinoma. They have cited that only radiologically or grossly suspected cases of carcinoma should be sent for histopathology.^{11,14-17} Many studies, however, have opposed their claim by presenting evidence of a high incidence of missed incidental carcinoma on using this selective approach.^{5,6,18,19}

Routine histopathological assessment of all cholecystectomy specimens has been recommended by many apex institutions including the Royal College of Pathologists.^{20,21} In a high risk region such as ours, routine histopathological examination should be the rule to detect the carcinoma cases early and provide appropriate treatment to the patients.

Conclusion:

Histopathology of gall bladder helps to assess non-neoplastic and precancerous changes. In a high risk zone, all gall bladder specimens should be subjected to histopathology so that incidental carcinoma is not missed.

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