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Histopathology

# INCIDENTAL GALL BLADDER CANCER IN ROUTINE CHOLECYSTECTOMY SPECIMENS: A TWO YEAR RETROSPECTIVE STUDY

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**ABSTRACT** **Introduction:** The wide spectrum of ailments that affect gall bladder include congenital, inflammatory, non inflammatory, calculi and its complications to neoplastic lesions. The increasing trend of laparoscopic cholecystectomies has made gall bladder most common surgically received specimens for histopathological evaluation. This has led to increasing incidence of incidental gall bladder malignancies for a presumed benign disease. **Aim & Objectives:** To study the incidence of incidental gall bladder cancer in routine cholecystectomy specimens received in pathology department over a period of 2 years. **Materials and Methods:** This retrospective study was done in the Department of Pathology, Acharya Shri Chander College of Medical Sciences and Hospital, Jammu from January 2021 to December 2022. All the cholecystectomy specimens received during the study period were included. **Results:** In the present study, histopathological examination confirmed the cases as chronic calculous cholecystitis(67.72%), its variants like follicular cholecystitis(1.89%) , chronic cholecystitis with evidence of cholesterosis(9.49%), Xanthogranulomatous cholecystitis(6.3%), acute on chronic cholecystitis (3.79%), chronic cholecystitis with intestinal metaplasia(3.79%), 3 cases each of acute cholecystitis and gallbladder polyp(1.89%), reactive atypia(0.63%). The frequency of gall bladder carcinoma in 158 cholecystectomy specimens was 2.53% (4 cases).

**KEYWORDS :** Gall bladder, cholecystectomy, gall bladder carcinoma

## INTRODUCTION

Gall bladder is one of the most common surgically resected specimens that stores bile and sits beneath the liver. The wide spectrum of ailments that affect gall bladder include congenital, inflammatory, non inflammatory, calculi and its complications to neoplastic lesions. The increasing trend of laparoscopic cholecystectomies has made gall bladder most common surgically received specimens for histopathological evaluation. This has led to increasing incidence of incidental gall bladder malignancies for a presumed benign disease.

Gall bladder carcinoma is the most common malignancy of biliary tract and fifth most common cancer of gastrointestinal tract worldwide that is known for its calamitous course and poor prognosis [1]. Commonly gall bladder cancer arises in the fundus (60%) of the gall bladder and metastasis to liver, lymph nodes and other organs is frequent [2]. Histologically most common gall bladder cancers are adenocarcinoma with variable degrees of differentiation.

The objective of the study was to determine the frequency of carcinoma gall bladder in cholecystectomy specimens particularly with reference to cholelithiasis.

## AIM & OBJECTIVES:

To study the incidence of incidental gall bladder cancer in routine cholecystectomy specimens received in pathology department over a period of 2 years.

## MATERIALS AND METHODS

This retrospective study was done in the Department of Pathology, Acharya Shri Chander College of Medical Sciences and Hospital, Jammu from January 2021 to December 2022. All the cholecystectomy specimens received during the study period were included. Gross features of the specimens received were recorded. Representative tissue were taken and after processing the tissue, routine staining was carried out with haematoxylin and eosin (H&E) stain.

Data regarding various histopathological changes were collected and analysed using appropriate statistical tool.

## RESULTS

In the present study, histopathological examination confirmed the cases as chronic calculous cholecystitis(67.72%), its variants like follicular cholecystitis(1.89%) , chronic cholecystitis with evidence of cholesterosis(9.49%), Xanthogranulomatous cholecystitis(6.3%), acute on chronic cholecystitis (3.79%), chronic cholecystitis with intestinal metaplasia(3.79%), 3 cases each of acute cholecystitis and gallbladder polyp(1.89%), reactive atypia(0.63%). The frequency of gall bladder carcinoma in 158 cholecystectomy specimens was 2.53% (4 cases) (Table 1).

Out of the 158 cases, 65 patients (41.13%) were present in 31-40 years of age group followed by age group of 41-50 years (Figure 1) (Table 2). Adenocarcinoma gall bladder was most commonly seen in age group of 61-70 years (50%) followed by age group of 51-60 years and 70 years above with 1 case (25%) each. Gall stones were found grossly in 3 of 4 cases of histopathologically proven carcinoma gall bladder cases. Adenocarcinoma cases in our study had female preponderance (75%) (Figure 2) .

## DISCUSSION

Most of the cases of GB carcinoma are diagnosed at advanced stages and have a poor prognosis having 5 year survival rate of <5%. When detected at early stage prognosis may improve significantly upto 90-100% 5 year survival. However these carcinomas are known to have delayed onset of symptoms. They are usually diagnosed as incidental finding post cholecystectomy and theoretically this group carries good prognosis.

In the present study of 158 cases, 65 cases (41.13%) were in the fourth decade followed by fifth decade with 34 cases (21.51%) which is consistent with the study conducted by Bansal and Akhtar [3] in which maximum cases were of the age group 31-40 years followed by 41-50 years (28.85% and 27.8% resp.)

The incidence of Incidental GBCs is reported to be 0.2%–2.1% in various studies. Out of 158 cases of cholecystectomy specimens, the incidence of IGBC in the present study was 2.53%. This is similar to study conducted Waghmare and Kamat [4] in which out of 270 cases incidental gall bladder carcinoma was diagnosed in 7 cases (2.59%). The frequency of Carcinoma Gall bladder among study population in a study by Junejo A. *et al* [5] was 10.86% (15 out of 138).

In a study by Abdul Ghani Soomro *et al* [6], carcinoma gall bladder was found in 19 cases (3.64%) and most were adenocarcinoma. Incidental carcinoma was also revealed in 1.9 % of the cases in study by Sangwan *et al* [7]. However in a study by Vidya Jha *et al* [8], the incidence of IGBC was 0.06% only.

We found the presence of gallstones in 3 of 4 (75%) of IGBCs. In a study by Vidya Jha, Preeti Sharma *et al* [8], 70% were associated with gallstones. Difference in rate of incidence of gallbladder stones and GBC among various studies might be due to different ethnic groups, race, and religion and size of the study group.

In our present study, IGBC was more commonly seen in females with 3 of 4 cases (75%).This is similar to study conducted by Garg ,Vohra and Kundal [2] in which IGBC was more commonly seen in females and in the elderly age group. Cholelithiasis is a well-known risk factor for gallbladder cancers.

Also in the present study, chronic calculous cholecystitis was the most frequent histopathological entity reported among cholecystectomy specimens. This is in concordance with the data reported in previous studies by Sangwan *et al* [7] and Vidha Jha *et al*[8].

## CONCLUSION

Despite meticulous preoperative investigations and gross specimen examination, incidental carcinoma of gallbladder is a rule rather than exception in significant number of cases. Incidence of IGBC is low and is usually early stage cancers with a better 5-year survival rate as compared to GBC. Radiology and macroscopic findings usually fail to raise suspicion of malignancy (IGBC) in cholecystectomy specimens. Thus, histopathological examination of cholecystectomy specimens is the gold standard for the detection of occult malignancy. In a developing country where resources are limited, selective sampling of resected gallbladders can be cost-effective. However, as GBC has a poor prognosis and tends to have rapid progression selective sampling is not justifiable in cholecystectomy specimens. Therefore, we strongly recommend histological assessment of all cholecystectomy specimens regardless of the radiological diagnosis or macroscopic findings.

### Tables And Figures

**Table 1 : Histopathological Profile Of Gall Bladder Lesions**

| SNO. | Diagnosis | No. Of Patients | Percentage |
|---|---|---|---|
| 1. | Acute cholecystitis | 03 | 1.89% |
| 2. | Acute on chronic cholecystitis | 06 | 3.79% |
| 3. | Chronic cholecystitis | 107 | 67.72% |
| 4. | Cholesterolosis | 15 | 9.49% |
| 5. | Xanthogranulomatous cholecystitis | 10 | 6.32% |
| 6. | Follicular cholecystitis | 03 | 1.89% |
| 7. | Intestinal metaplasia | 06 | 3.79% |
| 8. | Gall bladder polyp | 03 | 1.89% |
| 9. | Reactive atypia | 01 | 0.63% |
| 10. | Adenocarcinoma | 04 | 2.53% |
| TOTAL | | 158 | 100% |

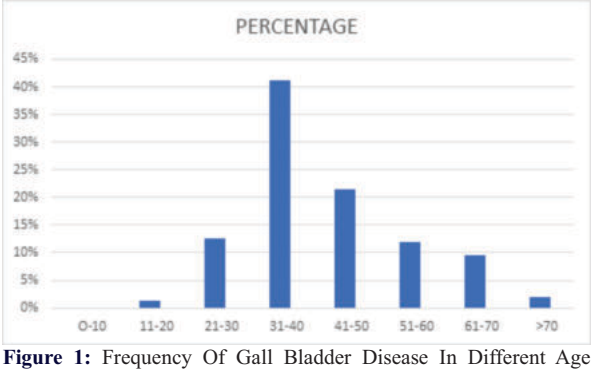


**Figure 1:** Frequency Of Gall Bladder Disease In Different Age Groups.

**Table 2: Frequency Of Gall Bladder Carcinoma In Different Age Groups And Gender Distribution**

| S. No. | Age Group (years) | Male | Female | Percentage |
|---|---|---|---|---|
| 1 | 0 - 10 | 0 | 0 | 0% |
| 2 | 11 - 20 | 0 | 0 | 0% |
| 3 | 21 - 30 | 0 | 0 | 0% |
| 4 | 31 - 40 | 0 | 0 | 0% |
| 5 | 41 - 50 | 0 | 0 | 0% |
| 6 | 51 – 60 | 0 | 1 | 25% |
| 7 | 61 – 70 | 0 | 2 | 50% |
| 8 | >70 | 1 | 0 | 25% |
| Total | | 1 | 3 | 100% |

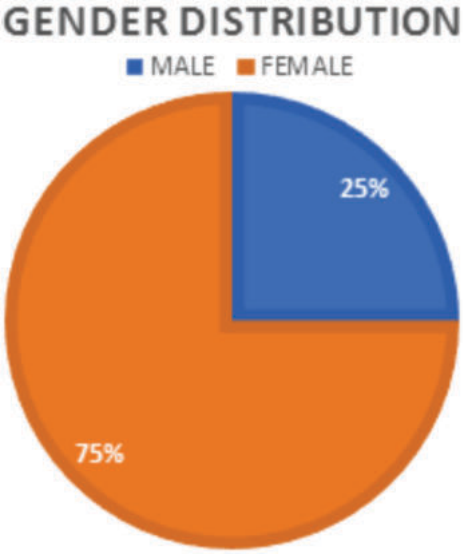


**Figure 2:** Gender Distribution Of Carcinoma Gall Bladder

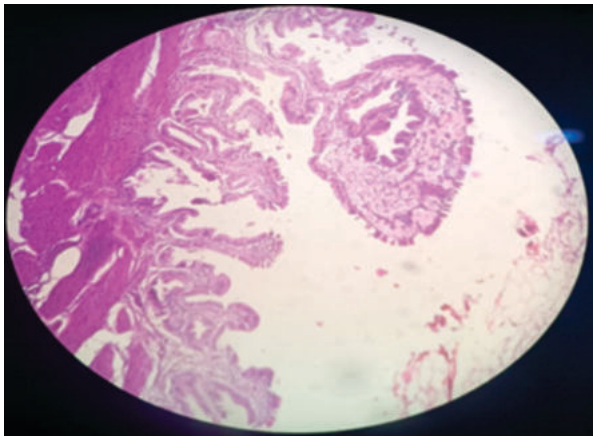

**Figure 3:** Micropictograph Chronic Cholecystitis With Cholesterolosis Gall Bladder

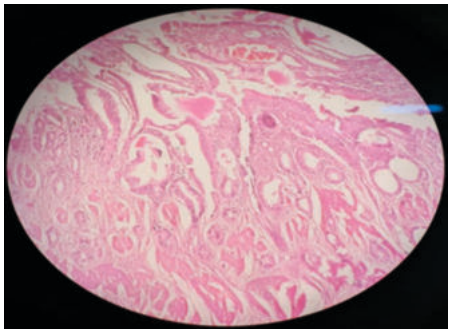

**Figure 4:** Micropictograph Adenocarcinoma Gall Bladder

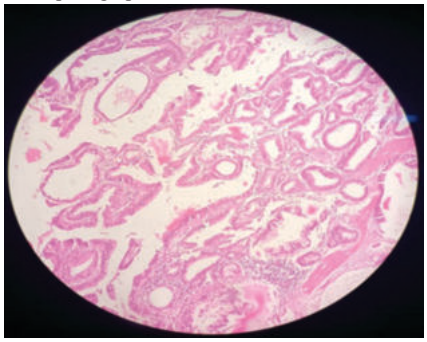

**Figure 5:** Micropictograph adenocarcinoma gall bladder

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