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*Original Research Article*

# Incidental Gall Bladder Carcinoma in Patients Undergoing Cholecystectomy in a Tertiary Care Hospital

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## ABSTRACT

**Introduction:** Incidental gall bladder carcinoma (IGBC) is an incidental finding of carcinoma diagnosed on histopathological examination of gall bladder specimen removed for benign gall bladder diseases. Gall bladder carcinoma is a highly malignant tumor with a poor prognosis. The incidence of IGBC is around 0.19 - 3.3% in the literature.

**Aims & Objectives:** To determine the percentage of gall bladder carcinoma incidentally diagnosed during histopathological examination of cholecystectomy specimens done for benign gall bladder disease.

**Material and Methods:** This study included 450 cholecystectomy specimens which were removed, during June 14 to July 2015 in a tertiary care hospital. The clinicopathological findings of cases with incidentally detected gall bladder cancers were recorded; age, sex, presenting symptoms, presence of gall stones, histopathological spectrum, histologic grade and staging of tumours were included (as per 7th edition AJCC2010).

**Results:** A total of 450 patients underwent cholecystectomy, incidental gall bladder carcinoma was diagnosed Histo-pathologically in 3 cases (0.67%). All 3 patients were females and the mean age was 38.33 years.

**Conclusion:** Prognosis of incidental gall bladder carcinoma is better, if diagnosed at an early stage.

**Key Words:** Incidental gall bladder carcinoma (IGBC), Cholecystectomy.

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## INTRODUCTION

Gall Bladder Carcinoma (GBC) is the 6th most common cancer involving the gastro intestinal tract but it is the most common malignant tumor of the biliary tract worldwide. Our study aims to determine the incidence of gall bladder carcinoma incidentally diagnosed during histopathological examination of cholecystetomy specimen done for benign gall bladder disease in a tertiary care hospital in the north Indian population of the Rajasthan state. Preoperative diagnosis of carcinoma of gall bladder is occurring in fewer than 20% of patients. Presenting symptoms are insidious and typically indistinguishable from those associated with cholelithiasis, abdominal pain, jaundice, anorexia, nausea and vomiting. The prognosis of GB carcinoma is very poor with less than 5% of 5 year survival rate. Diagnosis of GB carcinoma is difficult at an early stage because of a lack of specific sign and symptoms. We evaluated all consecutive cholecytectomies received in our Department of Pathology during one year period and compared our data to those reported in the literature. We also tried to detect common characteristics among this particular group of patients.

## MATERIALS AND METHODS

This study includes 450 cholecystectomy specimens in patients undergoing cholecysetomy, from March 2015 till the sample size is attained. The clinicopathological finding of cases with incidentally detected gall bladder carcinoma according to age, sex, presenting symptom, presence of gall stones and histologic grade and staging of tumor are included.

## RESULTS

The observational study showed a total of 450 cholecystectomies performed during the study period of 1 year. Out of these, 3 cases were positive for carcinoma gall bladder by histopathology. Incidence of incidental carcinoma among all the routine cholecystectomies come for histopathology examination was 0.67 %. The age of patients at diagnosis ranged from 36 to 55years (mean age 38.33 years), 10.60 standard deviation and less than 0.001S P value. All 3 cases were female. Majority of the patients were in fourth and sixth decade of life. The most common clinical complaints were pain in right hypochondria, nausea,

vomiting and fever. A preoperative abdominal ultrasound was done in all the 3 cases reveal longitudinal sonogram of gall bladder show heterogenous echotexure irregular margin, thickening of wall and intra luminal multiple stones. All patients had symptomatic gallstones for which laparoscopic cholecystectomy were done.

Gross examination showed in all 3 cases that gall bladder was only mildly thickened to 0.7 cms in fundus and body region and lumen filled with multiple stones of varying size. There was no proliferative lesion seen grossly. Histopathology examination showed 2 cases were Well differentiated adenocarcinoma in grade 1 with pT1b Nx Mx TNM (AJCC 2010) Stage and 1 case was Moderately differentiated adencarcinoma in grade 2 with pT2 Nx Mx TNM (AJCC 2010) Stage. Rest of the 447 cases incidence of cases according to their type were Chronic cholecystits with Cholelithiasis – 374 (83.1%), Chronic cholecystits – 34 (7.56%) Acute on chronic cholecystis - 20 (4.44%), Xanthogranulomatous cholecystis – 5(1.11%), Metaplasia and dysplasia and Acute cholecystitis – 3 (0.67%), Adenoma – 2 (0.44%) and Others – 6 (1.33%)

**Fig 1: Gross Morphology: [Including whether gall stones present] FFSCO Gall bladder ms. 9x3x2.5 cm .O/S grey brown .C/S lumen filled with multiple stone, mucosa is brownish hypertrophic thickened neck region.**

**Fig 2: USG findings: Longitudinal sonogram of gallbladder shows heterogenous echotexure irregular margin slight wall thickening (arrow) and intraluminal multiple stones.**

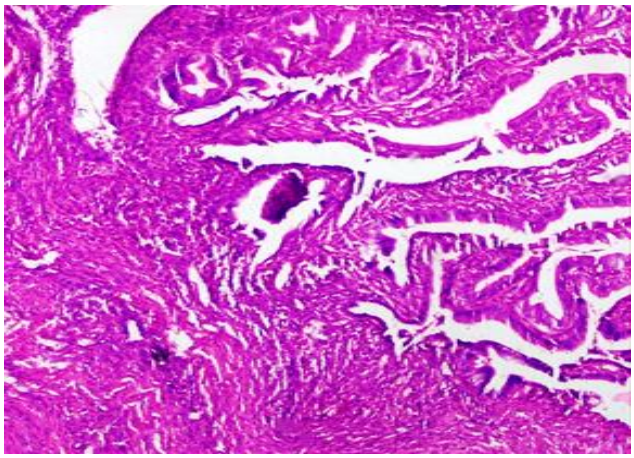

**Fig 3: Microscopic features: Well differentiated adenocarcinoma. Tumour is infiltrating up to muscular layer. (Image 4x)**

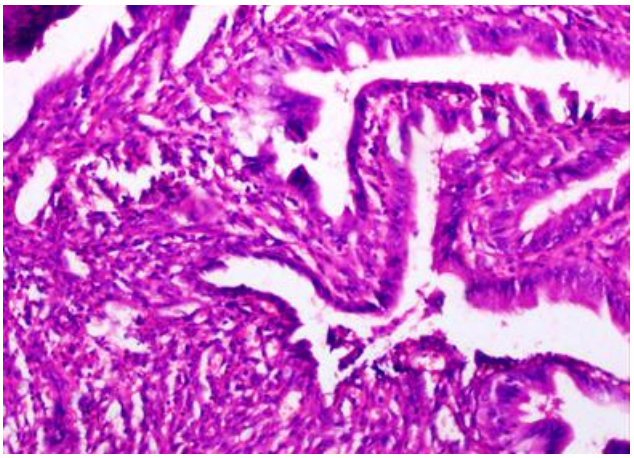

**Fig 4: (Image 10x): Diagnosis including grade in case of Ca GB—Grade -1, Pathologic stage [AJCC2010] — pT1bN0 M0**

**Fig 5: Gross morphology: A/C/O gall bladder ms.7x4x2 cm. C/S shows hypertrophic wall show impression of stone**

## DISCUSSION

Carcinoma of gall bladder is a rare gastrointestinal malignancy however it is reported to be the most frequent carcinoma of the extra hepatic biliary tract. Symptoms are non-specific and the diagnosis is often made at an advanced stage at operation for routine cholecystectomy. In our study 450 patients who underwent Cholecystectomy, incidental gall bladder carcinoma was diagnosed histo-pathologically in 3 cases. All patients were female. Nausea, vomiting and pain in the right upper quadrant (RUQ) of the abdomen were the common clinical presentation in all three cases.

The incidence of gall bladder carcinoma was found of 0.67%, with the mean age 38.33yrs. and 10.60 standard deviation. Similar to the incidence in other studies in published literature. The risk factor widely related to the gall bladder cancer are advanced age

and gall stones disease. All three patients were female and risk factors of Gall bladder cancer increases with increasing size of gall stones - patients with larger stones ( >3 cm.) have about a ten times higher risk of having GBC as compared to those with smaller <1 cm.) stones. Patients with GBC are around 15-20 years older than patients with gall stones.

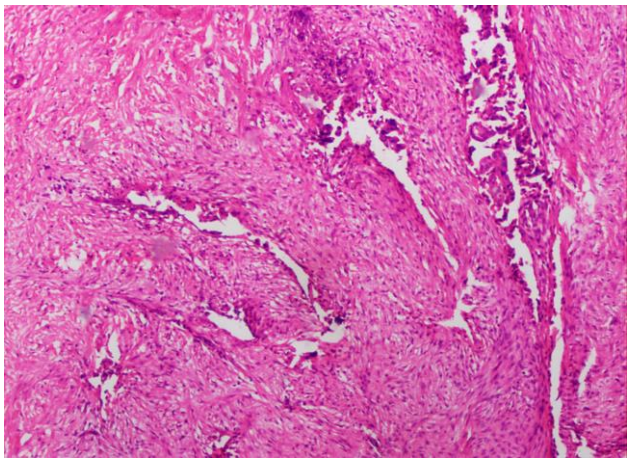

**Fig 6: Microscopic feature: Histomorphological features shows moderately differentiated adenocarcinoma infiltrating in to muscle layer. image 4x**

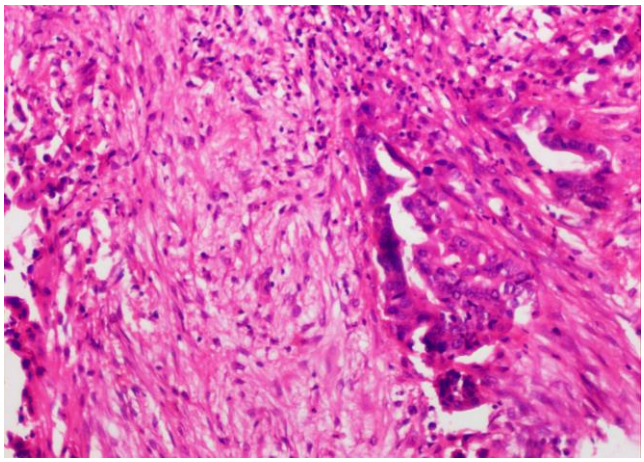

**Fig 7: Image 10 x: Diagnosis including grade in case of Ca GB – Grade -2, Pathologic stage [AJCC2010]- TNM – pT2 NX MX**

In our study 2 cases were in well differentiated adeno-carcinoms, in Grade 1 and TNM staging T1b Nx Mx with the pragnosis of 90-100% in the age of 30-40 yrs. and one cases was in Moderately differentiated Adenocarcinoma, in grade 2 and TNM staging pT2 NX MX with the prognosis of 47% in the age of 48 age.

The therapeutic approach to gall bladder carcinoma is applied according to the stages of tumor. Systematic review of IGBC from a prognostic point of view, Ro resection is the most important positive factor for overall survival of GB cancer.[1,2] The extent of surgery is different according to the depth of invasion (T Stage) of tumors. For a pT1a Tumor, Cholecystectomy is the standard procedure whereas for a pT1b tumor, cholecystetomy with lymph node dissection has been performed. For $pT_2$ and more advanced tumors, liver resection including the gall bladder bed and lymph node dissection are recommended. Extra hepatic bile duct resection is not performed uniformly.

Therefore, approximately three quarters of patients with Incidental GB cancer were ultimately candidates for revisional surgery. Simple cholecystectomy may be sufficient for patient with pT1a tumors by the TNM classification with cure rates ranging from 73 to 100% and for pT1b tumors (Tumor invading the muscular layer) the benefit of radical resection is controversial.

The site specific prognostic factors include histological type, histological grade and lymphovascular invasion. Papillary carcinoma have most favorable prognosis un favorable prognosis includes small cell carcinoma and undifferentiated carcinoma and lymphovascular invasion.

The importance of a histological examination of the post cholecystectomy specimens cannot be over emphasized. The non-specific clinical features and sonographic findings of early GBC make the preoperative diagnosis difficult and an incidental GBC has been recorded in every reported series of laparoscopic cholecystectomy cases.

## CONCLUSION

The incidence of incidental gall bladder cancer has been reported to very up to 2.85%. Female gender and advanced age are demographic risk factors for gall bladder cancer. Gall bladder cancer risk a short course with a poor prognosis, incidentally diagnosed tumors are often found in early stage and have a better prognosis.

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