

INCIDENTAL GALL BLADDER CANCER IN CHOLECYSTECTOMY SPECIMENS: A RETROSPECTIVE STUDY

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Abstract

Background: Incidental Gall Bladder Cancers (IGBC) are diagnosed incidentally in cholecystectomies done for benign gall bladder disease. Aim of this study was to find out the incidence of IGBC in a tertiary care centre of north India. **Objectives:** To study the incidence of incidental gall bladder cancer (IGBC) among patients undergoing cholecystectomies due to benign gall bladder diseases clinically and radiologically. **Materials and Methods:** This was a retrospective study. Study duration was one year (May 2013 to April 2014). Cases of routine cholecystectomy without any preoperative clinical or radiological suspicion of Gall bladder cancer, were included in this study. Clinical features, other relevant investigations, histopathological diagnosis, and surgical follow ups were recorded. **Result:** In the study duration, total 383 cases of cholecystectomy had been studied. Out of which seven cases (1.82%) were diagnosed as IGBC. In these cases of IGBC, Male: female ratio was 1:6 (M/F= 1/6). Mean age was 46.4 years. All these cases were diagnosed as Adenocarcinoma on histopathological examination. **Conclusion:** IGBC incidence was 1.82 %. Cholelithiasis were seen in all patients of IGBC. Most of IGBC cases were of early pathological stage (6 patients with pT1). Careful histopathological examination is essential for early detection of Gall bladder cancer and its staging, which directs further management and survival.

INTRODUCTION

Gall bladder cancer is the most common cancer of the biliary system and the fifth most common cancer of gastrointestinal tract.^[1] Clinical features are insidious in onset and usually indistinguishable from those associated with benign pathology. Diagnosis is usually made during intraoperative or postoperative pathological examinations.^[2]

Gall bladder cancer that was not suspected preoperatively and diagnosed only after pathological examination of cholecystectomies is called Incidental Gall bladder cancer (IGBC). The term IGBC should not be used when gall bladder cancer is suspected on preoperative ultrasonography or CT scan.^[3]

IGBCs are often found at an early stage and have a better prognosis.^[4,5] However Choi KS et al., concluded in their systematic review, that many IGBC cases were of T2, T3 stage. So second

extended surgery is necessary to improve the survival.^[6]

Most of the patients of gall bladder carcinoma have poor prognosis. Delayed diagnosis may be attributed to the fact that symptoms mimic that of gall stone disease, so usually neglected by patients.^[7] Poor prognosis is associated with adverse biological behaviour as well as low early diagnosis rate. Around 50-70 % cases of gall bladder cancer are diagnosed incidentally during or after routine cholecystectomy.^[1,6,8] In present study we aimed to see the incidence of IGBC among patients undergoing cholecystectomy due to benign gall bladder disease clinically and radiologically.

MATERIALS AND METHODS

This was a retrospective descriptive study. Data of all the cholecystectomies during study period had

been assessed. We included cases of cholecystectomies conducted for presumed benign disease only (without preoperative suspicion of malignancy). Study duration was of 1 year i.e. from May 2013 to April 2014.

Patients with preliminary diagnosis of gall bladder neoplasm and polyp were excluded from this study. Patients presented with lump in right hypochondrium or patients with ultrasonographic findings, which are suspicious of underlying gall bladder cancer e.g. irregular wall thickening, were ruled out from study.

We included cases independent of surgical approach i.e., open or laparoscopic. Retrospective data of patients' gender, age, clinical features, radiological features (if available), histopathology findings, other relevant investigations and surgical follow ups were collected.

This study was approved by institutional ethical committee. Informed consent requirement was waived due to retrospective study.

RESULTS

In the study duration, total 383 cases of cholecystectomy were included in the study. In which seven cases (1.82%) are diagnosed as Incidental Gall Bladder Cancer (IGBC). Out of these seven cases, maximum 3 cases were found in age group 51-60 years (7.6% incidence in this particular age group)[Table1]. No cases were found above 60 year (>60 age group). One patient of IGBC was very young (Age 22 years).

Table 1: Number of IGBC cases in different age groups.

Age in years	Number of Patients	Incidental carcinoma (IGBC)	%
≤30	114	1	0.8%
31-40	127	1	0.7%
41-50	78	2	2.5%
51-60	39	3	7.6%
61-70	22	0	0
≥70	03	0	0
Total	383	7	1.82%

Table 2: Description of seven cases of IGBC

Sl no.	Age in years	sex	Radiological	Histopathological diagnosis
1	38	F	Cholelithiasis, dilated lumen	Moderately differentiated Adenocarcinoma
2	40	F	Cholelithiasis, dilated lumen	Moderately differentiated Adenocarcinoma
3	50	F	Cholelithiasis	Well differentiated Adenocarcinoma
4	55	F	Cholelithiasis	Multifocal in-situ Adenocarcinoma
5	60	F	Cholelithiasis, dilated lumen	Adenocarcinoma
6	60	F	Cholelithiasis, dilated lumen	Moderately differentiated Adenocarcinoma
7	22	M	Cholelithiasis, dilated lumen	Well differentiated Adenocarcinoma

Table 3: Comparison with other similar studies

Studies [reference no.]	Cholecystectomies included in study	Incidental Gall bladder carcinoma	Percentage	Male/female ratio	Mean age
Ghimire P et al, ^[13]	783	10	1.28%	1: 2.3	63.8 years
Andrew Alabi et al, ^[14]	1473	02	0.14%	0:2	65 years
Khoo JJ, Nurul AM, ^[15]	1122	07	0.62%	1: 2	56.7 years
Mital R et al, ^[16]	1305	13	0.99%	1:5.5	56.2 years
Tatli F et al (2017), ^[17]	341	07	2.05%	1:6	67.7 years

In these seven cases of IGBC, six patients are females while one patient was male. Male: female ratio was 1:6 (M/F= 1/6). See [Table2].

So age of these IGBC cases varied from 22 years to 60 year with mean age of 46.4 years. All these seven cases were diagnosed Adenocarcinoma. [Table2]

On gross examination, all the cases had cholelithiasis. All patients had been diagnosed adenocarcinoma with early pathological stage (pT1). Only one patient (55 years female) had pT2 stage.

DISCUSSION

Gall bladder cancer is well known for its poor prognosis because of delayed clinical presentation and diagnosis. Most common malignancy of gall bladder is adenocarcinoma. It's peak incidence in sixth to seventh decade of life.^[8] But Incidental gall bladder cancer (IGBC) often found in early stage [pT1, pT2] and have a relative better prognosis.^[4]

We had included cholecystectomies of both surgical approach (Open and laparoscopic). Cucinotta E et al (2005) stated that survival rate of IGBC case, was statistically correlated with tumour stage but not with the surgical approach used.^[9]

Many clinical trials and meta-analysis show that IGBC incidence occurs in 0.19% to 2.8%.^[10] Our results also came in this range. In our study IGBC incidence was 1.82 % of all cholecystectomy done for benign reasons. Our finding is very close to results of studies done by Rajesh Poudel et al, 2020 (1.67%),^[11] Tatli F et al (2.05%) Ghimire P et al (1.28%). While studies by Frena et al(0.66%), Altiok et al (0.3%), Dorobisz et al (0.87%), Genc V et al (0.09%) observed low incidence.[Table3] Mean age of IGBC patients of this study, was 46.2 years. Which is relative less than other studies Ghimire P et al(63.8 years), Andrew Alabi et al (65 years)etc , however it is close to observations by Ramesh S Waghmare et al, 2014 (50 years).^[12][Table3]

Our results of IGBC incidence were comparable with other studies [Table3].

Altiok M et al (2022), ^[18]	11680	40	0.34%	1: 2.63	62.3 years
This Study (2022)	383	07	1.82%	1: 6	46.4 years

Gall stones were found in all cases of IGBC (100%) in our study. This fact is also comparable because in many studies gallstone association was seen up to 94%.^[19]

Females are commonly affected by IGBC. In our study six out of seven cases were of female gender. Male/female ratio (M/F = 1/6) was more comparable with study results of Tatli F et al (M/F = 1/6) and Mittal R et al (M/F = 1/5.5).

In this study we reported 7 cases of IGBC, 6 of these pT1 and one case of pT2 stage. Glauser et al suggested in their study that an extended resection of gallbladder bed and regional lymph nodes should be done in IGBC cases with T2 and above stage.^[20] However according to current guidelines, extended second surgery should be performed for IGBC of T1b, T2 and T3.^[21] In our study, patient of pT2 stage IGBC, refused second operation and insisted conservative treatment. According to Frena A et al (2007) treatment of choice should be an extended cholecystectomy because survival rate at one year, improved from 92% to 100%.^[22]

CONCLUSION

IGBC incidence was 1.82 % in this study, all patients were females and presented with cholelithiasis grossly. Mean age was 46.2 years. Which was relative less than other studies. Pathological staging are important for deciding further management and prognosis. Extended second surgery requirement has been decided by careful histopathological examination and proper staging.

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