INCIDENTAL CARCINOMA IN LAPAROSCOPIC CHOLECYSTECTOMY

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ABSTRACT: Background: The clinical manifestations of gall bladder carcinoma are generally indistinguishable from those associated with cholecystitis or cholelithiasis. Most of the cases of GB carcinoma are diagnosed during or after surgery performed for stones or benign biliary diseases. Advanced stage of the disease is because of delayed diagnosis and this leads to its poor prognosis.

AIMS: To study the frequency of incidental carcinoma of gall bladder in patients undergoing routine cholecystectomy. **CONCLUSIONS:** The rate of incidental carcinoma of gall bladder in our setting was found to be 2.15%. Our study strongly recommends routine histopathological examination in all cholecystectomy specimens as they help in detection of majority of cases of occult carcinoma GB.

KEY WORDS: Incidental Carcinoma, Laparoscopic cholecystectomy

INTRODUCTION: Cholecystectomy is the most common major abdominal procedure performed worldwide. Its annual incidence is estimated around 1 million amongst which 500-600 thousand cases in the US¹. Carcinoma of gallbladder is the most common malignancy of the biliary tract and the fifth most common cancer of digestive tract^{2,3}. The clinical manifestations of gall bladder carcinoma are generally indistinguishable from those associated with cholecystitis or cholelithiasis. Around 90% of GB (Gall bladder) carcinoma has accompanying stones⁴. However, only 0.5-3% of patients with cholelithiasis will develop gallbladder cancer.⁵ Most of the cases of GB carcinoma are diagnosed during or after surgery performed for stones or benign biliary diseases.⁶ Preoperative diagnosis of GB carcinoma occurs in less than 20.0% of patients.⁷ Advanced stage of the disease is because of delayed diagnosis and this leads to its poor prognosis except when diagnosed at early stages incidentally during routine cholecystectomies. Thus some of the surgeons recommend surgery even for the patient with asymptomatic gall bladder stones because of its likelihood to harbour occult malignancy.⁸ Role of histopathology of gall bladder specimen after routine cholecystectomy has also been challenged by various investigators stating that macroscopic features are always present in cases of GB carcinoma which can be used to selectively send specimens for histopathology.^{9,10,11} Our aim is to study the frequency of incidental carcinoma of gall

bladder in patients undergoing routine cholecystectomy and to study the demographic profile and prognosis of these patients.

METHODS: A retrospective study was done on all routine laparoscopic cholecystectomy cases (n=371) performed from Jan 2010 to Sep 2012 at KIMS Hospital and Research Center, Bangalore. The surgical case notes including the preoperative entry, the operating notes and all clinical information and the histopathological reports of the patients and their follow up were evaluated. The incidence and clinico- pathological factors (presenting symptoms, demographics, histopathology, staging and follow up) of gallbladder carcinoma that were detected incidentally during routine cholecystectomy were reviewed and analysed. The results were tabulated and a thorough review of literature was done. All the cases in which cholecystectomy was done but had any suspicion of malignancy during preoperative evaluation was excluded from the study. The study was ethically approved by the ethical committee of our hospital.

RESULTS: A total of 371 cholecystectomies were performed during the study period. Female patients constituted 57% of the study group. The fifth decade (26.14%) and the sixth decade (25.06%) was the most affected age group. Charts 1 and 2 describe the presenting symptoms and the clinical signs.

DISCUSSION: Etiological factors for gall bladder ca are gallstones, porcelain gallbladder, adenomatous polyps of the gallbladder, chronic infection with *Salmonella typhi*, carcinogen exposure (e.g., miners exposed to radon), and abnormal pancreaticobiliary duct junction (APBDJ).⁵ Most of the cases of carcinoma GB are diagnosed at advanced stage and have a poor prognosis having 5 year survival rate of <5%. When detected at early stages prognosis may improve significantly up to 90-100% five years survival rate.^{12,13} However these carcinomas are known to have delayed onset of symptoms. They are also usually diagnosed as incidental finding post cholecystectomy and theoretically this group carries the best prognosis.¹⁴ In our series the incidence rate of incidental GB carcinoma in routine post-cholecystectomy cases was 2.15%. Amanullah et al (1.8%) and Shrestha R et al (1.4%) have incidence less than ours whereas Zhang WJ et al has shown its occurrence as low as 0.19% and Navqi et al has found its occurrence as high as 5.9%.¹⁵⁻¹⁸ Most of the patient with incidental carcinoma GB were Females constituted three fourths of the incidental ca patients. (M:F ratio 1:3). Fifth decade was the most common age group involved (26.1%). It is a standard practice to perform routine histopathological examinations for all cholecystectomy specimens. Various studies including the working report of Royal College of Pathologists have recommended for this routine standard practice.^{15,19} Recently few other investigators have challenged this practice. They have suggested that all cases of GB carcinoma have some macroscopic features like thickened fibrotic wall, mucosal ulceration, nodular mucosa or polypoid projections which can be used as a guide for sending for histopathology. Limitations of the study are its retrospective nature.

CONCLUSION: The rate of incidental carcinoma of gall bladder in our setting was found to be 2.15%. Our study strongly recommends routine histopathological examination in all cholecystectomy specimens as they help in detection of majority of cases of occult carcinoma GB.

ORIGINAL ARTICLE

This study also highlights that although primary carcinoma of gall bladder are known for their late presentation and hence poor survival rates; occult carcinoma GB diagnosed incidentally on histopathological examination of post-cholecystectomy specimen are usually detected at earlier stages and thus have better prognosis.

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PRESENTATION - SYMPTOMS

CHART 1

PRESENTATION - SIGNS

CHART 2

Ultrasonography showed calculus in 77% of patients and wall thickness was more than 4mm in 34 patients. Histopathological analysis of the specimens revealed chronic calculous cholecystitis as the most common pathology, followed by acute and acute on chronic cholecystitis. Eight patients (2.15%) showed evidence of malignancy with 75% of the patients being females. (Chart 3)

CHART 3

Three of these specimens had pathological staging as pT1 and 5 had pT2 stage. Two of patients in pT1 stage had well differentiated adenocarcinoma and one had moderately differentiated adenocarcinoma. However patients with pT2 staging had varied histology as shown in table 1.

	GROSS FEATURES	CUT SECTION	WALL THICKNESS	HPE	STAGE
CASE 1	NODULAR MUCOSA	GREY WHITE	4mm	MDA	pT2
CASE 2	DISRUPTED MUCOSAL ARCHITECTURE	GREY WHITE	3.2mm	WDA	pT2
CASE 3	IRREGULAR MUCOSA NO CALCULI	GREY WHITE & HEMORRHAGIC	5mm	WDA	pT1b
CASE 4	THICKENED WALL	GREY WHITE	5mm	INFILTRATING WDA	pT2
CASE 5	IRREGULAR MUCOSA	GREY WHITE	5mm	WDA	pT1a
CASE 6	CAULIFLOWER GROWTH	GREY WHITE	4mm	SQ CELL CA	pT2
CASE 7	IRREGULAR MUCOSA	GREY WHITE	5mm	INFILTRATING WDA	pT2
CASE 8	THICKENED WALL	GREY WHITE & HEMORRHAGIC	5mm	MDA	pT1b

TABLE 1

TREATMENT(T2 LESION)

AGE	S&S	PRE OP DIAGNOSIS	Sx	HPE	Rx	F/U
70/m	RT HYPO PAIN	CHOLELITHIASIS	LAP CHOLE	MDA	CT	25 MO &ALIVE
70/m	PAIN ABD & INT JAUNDICE	A/C CAL CHOLECYSTITIS & EMPYEMA	LAP CHOLE	WDA	WHIPP LES	24 MO &ALIVE
78/f	RT HYPO PAIN & FEVER	CALCULOUS CHOLECYSTITIS	LAP CHOLE	INF. WDA	CT	18 MO
65/f	RT HYPO PAIN	CHOLELITHIASIS	LAP CHOLE	SCC	CT	12 MO & ALIVE
50/f	INT JAUNDICE	CHRONIC CHOLESYSTITIS	LAP CHOLE	INF. WDA	CT	12 MO &ALIVE

TABLE 2

All patients in our study except one were treated with chemotherapy with Folfox regimen. Their respective follow-up periods are mentioned in the table 2. Our protocol is as follows: (Figure)

FIGURE 1

Only one patient in the pT2 category underwent sphincter Sparing Whipple's pancreaticoduodenectomy. CA 19-9 and CEA were used as markers for follow-up study and recurrence detection.