

# The Frequency of Incidental Gall Bladder Carcinoma After Laparoscopic Cholecystectomy for Chronic Cholecystitis with Gall Stones

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## ABSTRACT

**Background:** Majority of patients harboring gallstones though asymptomatic still carry a risk of developing complications (1-2%) Laparoscopic cholecystectomy (LC), regarded the gold standard, being a very common modality of treatment is undergoing rapid improvement with the advent of newer technologies. **Objective:** To find out the frequency of gallbladder carcinoma in patients undergoing laparoscopic cholecystectomy for chronic cholecystitis with gall stones. **Study Design:** Cross Sectional Study. **Settings:** Department of Surgery, Khyber Teaching Hospital, Peshawar-Pakistan. **Duration:** 6 months duration (April 2016 to October 2016). **Methodology:** A total of 266 patients admitted in Surgical unit, Khyber Teaching Hospital, Peshawar over Six months were observe. The purpose of admission was laparoscopic cholecystectomy for chronic cholecystitis. **Results:** In this study mean age was 42 years with SD  $\pm 9.664$ . Thirty-five percent patients were male and 65% patients were female. More over 2% patients had incidental gallbladder carcinoma while 98% patients didn't have Incidental gallbladder carcinoma. **Conclusion:** Our study concludes that the frequency of incidental gall bladder carcinoma was 2% after laparoscopic cholecystectomy for chronic cholecystitis with gall stones.

**Keywords:** Incidental gall bladder carcinoma, laparoscopic cholecystectomy, chronic cholecystitis, gall stones.

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## INTRODUCTION

Gallstone disease accounts for the most common biliary tract disease throughout the world figuring to almost 12% of the population in United States and 18.5% in the Europe.<sup>1</sup> Majority of patients harboring gallstones though asymptomatic still carry a risk of developing complications (1-2%).<sup>2</sup> Laparoscopic cholecystectomy (LC), regarded the gold standard, being a very common modality of treatment is undergoing rapid improvement with the advent of newer technologies.<sup>3,4</sup>

The widespread use of laparoscopic techniques has led to an increase in referrals for cholecystectomy. As a consequence, the incidental finding of GBC at an earlier stage has altered the management and the outcome of the disease. However, GBC remains a lethal disease associated with a dismal prognosis.<sup>5</sup> Incidental GBC is more likely to be found in patients when age is  $\geq 65$ , with dilated bile ducts and gallbladder wall thickening. Preoperative suspicion of gallbladder cancer should prompt the surgeon to be more careful not to perforate the gallbladder during laparoscopic approach.<sup>6</sup> Preoperative predictors of incidental GBC have been poorly defined despite the frequency with which cholecystectomy is performed.<sup>7</sup> The prognosis of unexpected gallbladder cancer is worsened when laparoscopic cholecystectomy is performed. The unfavorable impact of emergency surgery on prognosis might be related to intraoperative gallbladder emptying with bile spillage and cancer dissemination.<sup>8</sup>

The reported frequency of incidental GBC after LC has been reported as 1.53%<sup>9</sup> and 1.28%.<sup>10</sup> The incidence of incidental gallbladder cancer has been reported to vary, up to 2.85%.<sup>11</sup> Chronic Cholecystitis is not uncommon in our population due to gall stones and the best modality of treatment is LC for those patients. As mentioned above, although rare, but the GBC is a deadly cancer of the biliary tract and if not diagnosed and treated in time, it has a worse prognosis of all cancers. Moreover, the lack of suspicion before the surgery and spillage of bile during LC has also made the prognosis worse for patients who are incidentally diagnosed with GBC after LC.

## METHODOLOGY

**Study Design:** Cross Sectional Study.

**Settings:** OPD of Surgical unit, Khyber Teaching Hospital, Peshawar-Pakistan.

**Duration:** 6 months duration (April 2016 to October 2016).

**Methods:** 266 patients presenting to OPD and then admitted for laparoscopic cholecystectomy. All patient with chronic cholecystitis with gall stone of age 18-65 years and meeting ASA class 1 and 2 were included in the study. Chronic cholecystitis was diagnosed in patients with history of Mild pain in the hypochondrium of more than 6 weeks, mild tenderness in the right hypochondrium (on clinical examination) and ultrasound showing thick fibrosed wall of gall bladder and with gall stones. Patients with choledocholithiasis (US detected), Acute cholecystitis (history, examination and ultrasound),

Empyema gall bladder (ultrasound) and with history of previous upper abdominal surgery were excluded. The indicated laparoscopic cholecystectomy were performed by experienced surgeon under the standard protocol and the gall bladder were send to hospital laboratory for GBC, investigated by a single 5 years experienced histopathologist.

## RESULTS

In this study age distribution among 266 patients was analyzed as 32(12%) patients were in age range 18-30 years, 80(30%) patients were in age range 31-40 years, 88(33%) patients were in age range 41-50 years, 66(25%) patients were in age range 51-65 years. Mean age was 42 years with SD  $\pm$ 9.664.

**Table 1: Age Distribution (n=266)**

Among 266 patients was analyzed as 93 (35%) patients were male while 173 (65%) patients were female. (Table 1)

**Table 1: Gender distribution**

Gender	Frequency	Percentage
Male	93	35%
Female	173	65%
Total	266	100%

Among 266 patients was analyzed as 5 (2%) patients had Incidental gallbladder carcinoma while 261 (98%) patients didn't had Incidental gallbladder carcinoma. (Table 2)

**Table 2: Incidental gallbladder carcinoma (n=266)**

Incidental Gallbladder Carcinoma	Frequency	Percentage
Yes	5	2%
No	261	98%
Total	266	100%

Stratification of incidental gallbladder carcinoma with respect to age and gender is given in table no 4,5 mean age was 42 years with SD  $\pm$  9.664.

**Table 3: Stratification of incidental gallbladder carcinoma W.R.T age (n=266)**

IGBC	18-30 y	31-40 y	41-50 y	51-65 y	Total
Yes	0	2	2	1	5
No	32	78	86	65	261
Total	32	80	88	66	266

Chi square test was applied in which P value was 0.8251.

**Table 4: Stratification of incidental gallbladder carcinoma W.R.T gender (n=266)**

IGBC	Male	Female	Total
Yes	1	4	5
No	92	169	261
Total	93	173	266

Chi square test was applied in which P value was 0.4787

## DISCUSSION

Gallstone disease accounts for the most common biliary tract disease throughout the world figuring to almost 12% of the population in United States and 18.5% in the Europe.<sup>1</sup> Majority of patients harboring gallstones though asymptomatic still carry a risk of developing complications (1-2%).<sup>2</sup> Laparoscopic cholecystectomy (LC), regarded the gold standard, being a very common modality of treatment is undergoing rapid improvement with the advent of newer technologies.<sup>3,4</sup> Our study shows that the mean age was 42 years with SD  $\pm$  9.664. Thirty five percent patients were male and 65% patients were female. Moreover 2% patients had incidental gallbladder carcinoma while 98% patients didn't have Incidental gallbladder carcinoma.

Similar results were observed in another study conducted by Ferrarese AG et al<sup>12</sup> in which 508 consecutive laparoscopic cholecystectomies were done: 457 executed for cholelithiasis (150 urgencies), 51 patients for gallbladder adenomyomatosis. They observed 7 accidental gallbladder adenocarcinomas in post-operative histological examination. Four patients out of 7 were females and the mean age was 67.8 years old (range 64-75). The frequency of incidental GBC after LC was 1.53%

Similar results were observed in another study conducted by Ghimire P et al<sup>13</sup> in which 783 cases were observed and the gall bladder cancer was detected in 10 (1.28%) of cases and was more common in females (M:F ratio 1:2.3) and the mean age of occurrence was 63.8 years. Most of the cases diagnosed were at their early stages and none of them were in T3 and T4 stages. Six of these patients have survived till a mean follow up duration of 23.7 months. Similar results were observed in another study conducted by Tüzüner A et al<sup>14</sup> in which 5,382 patients in whom laparoscopic cholecystectomy was attempted, 5,164 were included in this study. Incidental gallbladder cancer was found in five patients, with a mean age of 66.2 years. The incidence of incidental gallbladder cancer has been reported to vary, up to 2.85%. The histological tumor stages were adenocarcinoma in situ in one patient, pT1b in one patient, pT2 in one patient, and pT3 in two patients. Two patients who underwent laparoscopic cholecystectomy alone underwent no additional surgery because of the low stage of the tumors. The three remaining patients, whose laparoscopic cholecystectomies were converted to open surgeries, underwent cholecystectomy, excision of the liver bed and lymph node dissection. The overall median survival time was 32 months.

Rammohan A<sup>15</sup> had reported that of the 79 patients, Ultrasound abdomen showed diffuse thickening, not suspicious of malignancy in 5 patients, and diffuse suspicious thickening was seen in 4 patients. Focal thickening suspicious of malignancy was present in 24 patients. Preoperative computed tomography/magnetic resonance imaging was done in 9 patients for suspicion of malignancy. In 5 patients, difficult Cholecystectomy was encountered due to dense/inflammatory adhesions. Intraoperative findings showed focal thickening of the gallbladder and a gallbladder mass in 9 and 17 patients respectively. On overall analysis, 37 patients had preoperative imaging or intraoperative findings suggestive of malignancy, which was either a missed GBC or an unsuspected/unexpected

GBC. In 42 (53.2%) patients, there was no evidence suggestive of malignancy and was an unanticipated diagnosis.

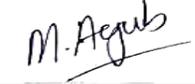
## CONCLUSION

Our study concludes that the frequency of incidental gall bladder carcinoma was 2% after laparoscopic cholecystectomy for chronic cholecystitis with gall stones.

## REFERENCES

- Ruhl CE, Everhart JE. Gallstone disease is associated with increased mortality in the United States. *Gastroenterol* 2011;140(2):508-16.
- Duncan CB, Riall TS. Evidence-based current surgical practice: calculous gallbladder disease. *J Gastrointest Surg* 2012;16(11):2011-25.
- Rivas H, Varela E, Scott D. Single-incision laparoscopic cholecystectomy: initial evaluation of a large series of patients. *Surg Endosc*. 2010;24(6):1403-12.
- Jain SK, Tanwar R, Kaza RCM, Agarwal P. A prospective, randomized study of comparison of clipless cholecystectomy with conventional laparoscopic cholecystectomy. *J Laparoendosc Adv Surg Tech A*. 2011;21(3):203-8.
- Cavallaro A, Piccolo G, Panebianco V, Lo Menzo E, Berretta M, Zanghi A, et al. Incidental gallbladder cancer during laparoscopic cholecystectomy: managing an unexpected finding. *World J Gastroenterol*. 2012;18(30):4019-27.
- Koshenkov VP, Koru-Sengul T, Franceschi D, Dipasco PJ, Rodgers SE. Predictors of incidental gallbladder cancer in patients undergoing cholecystectomy for benign gallbladder disease. *J Surg Oncol*. 2013;107(2):118-23.
- Pitt SC, Jin LX, Hall BL, Strasberg SM, Pitt HA. Incidental gallbladder cancer at cholecystectomy: when should the surgeon be suspicious? *Ann Surg*. 2014;260(1):128-33.
- Clemente G, Nuzzo G, De Rose AM, Giovannini I, La Torre G, Ardito F. Unexpected gallbladder cancer after laparoscopic cholecystectomy for acute cholecystitis: a worrisome picture. *J Gastrointest Surg*. 2012;16(8):1462-8.
- Ferrarese AG, Solej M, Enrico S, Falcone A, Catalano S, Pozzi G, et al. Diagnosis of incidental gallbladder cancer after laparoscopic cholecystectomy: our experience. *BMC Surg*. 2013;13(2):20-25.
- Ghimire P, Yogi N, Shrestha BB. Incidence of incidental carcinoma gall bladder in cases of routine cholecystectomy. *Kathmandu Univ Med J (KUMJ)*. 2011;9(34):3-6.
- Tüzüner A, Erden E, Karayalçın K. Incidental gallbladder cancer diagnosed during or after laparoscopic cholecystectomy in members of the Turkish population with gallstone disease. *Turk J Gastroenterol*. 2011;22(5):513-6.
- Ferrarese AG, Solej M, Enrico S, Falcone A, Catalano S, Pozzi G, et al. Diagnosis of incidental gallbladder cancer after laparoscopic cholecystectomy: our experience. *BMC Surg*. 2013;13(2):1.
- Ghimire P, Yogi N, Shrestha BB. Incidence of incidental carcinoma gall bladder in cases of routine cholecystectomy. *Kathmandu Univ Med J (KUMJ)*. 2012;9(2):3-6.
- Tüzüner A, Erden E, Karayalçın K. Incidental gallbladder cancer diagnosed during or after laparoscopic cholecystectomy in members of the Turkish population with gallstone disease. *Turk J Gastroenterol*, 2011;22(5):513-6.
- Rammohan A, Cherukuri SD, Sathyanesan J, Palaniappan R, and Govindan M. Incidental gall bladder cancers: Are they truly incidental? *World J Gastrointest Oncol*. 2014;6(12): 441-3.

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