

## Early Diagnosis of Carcinoma Gall Bladder - A Case Series

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**Abstract:** Gallbladder cancer is a highly aggressive malignancy with a low survival rate. Almost all cases are diagnosed at an advanced stage beyond which surgical cure is impossible. The reason for this being that gallbladder cancer mimics or coexists with gallstone disease and is often missed. Also only 50% of gallbladder carcinoma is diagnosed intraoperatively. Early diagnosis including strict scrutiny of such symptomatic patients is essential for decreasing the morbidity and mortality of gallbladder cancer. This Case series includes a retrospective study among 5 patients in a tertiary care hospital. Carcinoma Gall Bladder was either suspected on imaging or incidentally diagnosed intra-operatively or post operatively by histopathology report of cholecystectomy specimen .4 patients underwent completion radical cholecystectomy after postoperative histopathology report, whereas the last patient diagnosed to be malignancy underwent cholecystectomy. All patients had a stage of < T2N0M0. Abdominal CT and MRI scans were performed 6 months after treatment. At that time, there was no radiologic evidence of disease recurrence. Diagnosis of gall bladder in its early stage thus reduces the morbidity and thereby the patient can be offered curative surgery.

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### I. Introduction

Cancer of Gall bladder is a rare malignancy that occurs predominantly in the elderly. Being an aggressive tumor, the 5 year survival rate is as low as 5% <sup>(1)</sup>. Carcinoma gallbladder has a worldwide incidence of 1-2/100, 00. In the Indian Subcontinent, although rare it is still the commonest hepato-biliary malignancy, Northern India being the most affected. Among women it is the commonest gastrointestinal malignancy. It is usually diagnosed late and is aggressive with 50% of carcinoma gall bladder cases being unresectable at diagnosis. Gallstones are the most important risk factor, and up to 95% of patients with gall bladder cancer have gallstones <sup>(2)</sup>. Chronic Inflammation following cholelithiasis is the main predisposing factor for malignancy. Larger stones (>3 cm) are associated with a 10 fold higher risk of cancer <sup>(3)</sup>. The risk of gall bladder cancer is higher in patients with symptomatic than asymptomatic gallstones. Signs and symptoms of carcinoma of gallbladder are generally indistinguishable from those associated with cholecystitis and cholelithiasis, including jaundice, weight loss, anorexia, ascitis and abdominal mass. The other precancerous lesions include porcelain gallbladder, sclerosing cholangitis, anomalous pancreaticobiliary junction, and exposure to carcinogens (nitrosamines, azotoluene). More than half of gallbladder cancers are not diagnosed before surgery.

### Aims and Objectives

This study aims to report our experience with early Carcinoma Gallbladder in a tertiary care hospital. This study was a retrospective study in a tertiary care centre from September 2014 to September 2016. Carcinoma Gall Bladder was either suspected on imaging or incidentally diagnosed intra-operatively or post operatively by histopathology report of cholecystectomy specimen. Detecting gallbladder carcinoma in its early stages can be difficult, despite improvements in ultrasound and computed tomography (CT) imaging. Most diagnoses of Gallbladder cancer are made at advanced stages, with the majority being found incidentally during surgery for cholelithiasis. The presented case series demonstrates the importance of diagnosing Gallbladder malignancy at an early stage.

### II. Materials and Methods

Our study consisted of retrospective data from September 2014 – September 2016 from 5 cases of early Carcinoma Gall Bladder. Data that was analyzed was Age, Sex, Co-morbid conditions, BMI, Clinical Symptoms, and Post operative follow-up. Patients were treated as per protocol and intraoperative findings were noted. Post operatively patient data was collected including histopathology report of cholecystectomy specimens.

### III. Results

Among the 5 patients studied all were greater than 40 years of age with the median age of presentation as 45 years. All patients were female. Four Patients had a BMI (Body Mass Index) of > 40Kg/m<sup>2</sup>, and the remaining 1 patient had a BMI < 30Kg/m<sup>2</sup>. Three patients were diagnosed with Type 2 Diabetes Mellitus and were on oral hypoglycemic drugs. History of biliary colic was present in all cases. One patient had finding of polypoidal masses (> 2cm) arising from fundus on Cholecystectomy (figure 2). Two patients underwent unsuspected Laparoscopic cholecystectomy, with Histopathology report suggestive of malignancy. 2 patients had Hypoechoic lesions in GB neck & cystic duct on USG, & heterogenous enhancement on CECT (figure 1). One patient had irregular thickening at the GB neck on CECT. Four patients underwent radical cholecystectomy after intra-operative confirmation with frozen section of cystic duct margin. Incidentally detected Gallbladder carcinoma underwent completion cholecystectomy. All patients had disease <T2N0M0. Abdominal CT and MRI scans were performed 6 months after treatment. At that time, there was no radiologic evidence of disease recurrence. Overall, all 5 patients are under close follow-up care.

### IV. Discussion

Gallbladder cancer is associated with a high rate of regional lymph node metastasis and mortality<sup>(4)</sup>. Survival of these patients depend on the extent of resection and resection margins. R0 resection is most favourable because patients who undergo R2 resections do poorly in spite of Chemoradiation. However, some patients with R1 resection have better survival times. Therefore, early detection is important because patients with stage T1N0 would stand a better chance of surgical cure, than with the potentially toxic adjuvant therapy.<sup>(5)</sup>

Since early Gallbladder cancer mimics or coexists with gallstones, swift detection of early malignancy is a difficult task.<sup>(6)</sup> Symptoms early in the disease process can also be vague, often leading to a delay in diagnosis. Hence screening for such patients will be essential in prolonging the survival of patients. The commonest symptom of gallbladder cancer is right quadrant abdominal. Other warning signs include weight loss, anorexia, nausea and/or vomiting, jaundice, and itching<sup>(7)</sup>.

Routine serum tests are non-diagnostic and do not significantly improve the identification of Gallbladder cancer preoperatively<sup>(8)</sup>. Serum tumor markers, carcinoembryonic antigen (CEA), and carbohydrate antigen 19-9 (CA 19-9) are frequently elevated in patients with Gallbladder cancer, but are not useful in its diagnosis because of their lack of sensitivity and specificity<sup>(9)</sup>.

Ultrasound and CT has greatly improved preoperative diagnosis of Gallbladder cancer. Patients who present with symptomatic gallstone disease are subjected to ultrasound as an initial study. The most common ultrasound findings include calcified and echogenic mucosal masses, which can be associated with cholelithiasis or porcelain gallbladder<sup>(10)</sup>. The most useful, non-invasive imaging studies for evaluating Gallbladder cancer preoperatively include CT, magnetic resonance imaging (MRI), and/or magnetic resonance cholangiopancreatography (MRCP). CT has been shown to be useful in defining the extent of GBC and in determining the resectability in advanced stages<sup>(10)</sup>. MRI and MRCP have also been shown to be useful in preoperative staging of GBC with a high sensitivity in identifying hepatic invasion and lymph node metastasis. Biopsies of the detected gallbladder masses are often performed via ultrasound or CT guidance.

### V. Conclusion

Our cases illustrate the importance of preoperative, early-stage Gallbladder cancer diagnosis. Given that early detection is important in both decreasing the morbidity and mortality of Gallbladder cancer, with potential for surgical cure in cases limited to the gallbladder, patients with RUQ ultrasound findings such as gallstones or polyps should be offered surgical consultation. Diagnosis of gall bladder in its early stage reduces the morbidity and thereby the patient can be offered curative surgery. Further, consideration of Gallbladder cancer within the differential diagnosis by primary care physicians, radiologists, and surgeons may serve to maximize discovery before the time of surgery. Whether detecting carcinoma gall bladder improves morbidity free survival is yet to be observed.

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Figure 1



Figure 2



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