

**CLINICO-PATHOLOGICAL STUDY OF CARCINOMA GALL BLADDER**

Ravindra Kumar<sup>1</sup>, Bhagchand Khorwal<sup>2</sup>, Kuldeep Singh Yadav<sup>3</sup>, Rajveer Arya<sup>4</sup>

<sup>1</sup>Resident, Department of General Surgery, SMS Medical College, Jaipur.

<sup>2</sup>Resident, Department of General Surgery, SMS Medical College, Jaipur.

<sup>3</sup>Junior Resident, Department of Psychiatry, Mahatma Gandhi Medical College, Jaipur.

<sup>4</sup>Consultant Surgeon, Department of General Surgery, SMS Medical College, Jaipur.

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**ABSTRACT**

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**INTRODUCTION**

Gall bladder cancer is 5<sup>th</sup> most common cancer of GIT. It is associated with cholelithiasis in significant number of patients. Cholelithiasis is cause or effect of gall bladder cancer is still uncertain. There are many risk factors which are common to both gall stones and cancer. Preoperative diagnosis of gall bladder cancer is increased with better and new investigation facilities.

**AIM**

The study was aimed to assess clinicopathological behaviour, sociodemography, diagnostic modalities and treatment of cancer gall bladder.

**MATERIAL AND METHODS**

It was a type of prospective study which included 75 patients with clinical features suggestive of biliary disease. Various diagnostic modalities and treatment options were assessed along with sociodemography and clinical picture.

**RESULT**

Common clinical features were pain abdomen, obstructive jaundice and lump. Nearly one third of the patients were having anaemia and abnormal liver function tests. Majority had gall bladder fossa mass with liver extension and gall stones. The most common histopathological variety of carcinoma Gallbladder was Adenocarcinoma.

**CONCLUSION**

Carcinoma Gallbladder was found to affect predominantly the older female patients after the age of 40 years. Cholelithiasis was found in 69.3% patients of carcinoma Gallbladder. The most common clinical presentation was pain abdomen (90.7%). The most common histopathological variety of carcinoma Gallbladder was Adenocarcinoma. Majority of patients were treated with palliative measures.

**KEYWORDS**

Carcinoma Gall Bladder, Gall Stones, Clinicopathology.

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**INTRODUCTION:** Gallbladder cancer is the fifth most common cancer of the gastrointestinal tract and most common cancer of biliary tract.

Cholelithiasis is one of the important etiological factor implicated in causation of carcinoma GB.<sup>[1]</sup> Risk factors for carcinoma GB overlap to a certain extent with those for cholelithiasis including advanced age, female sex, increasing parity, obesity and dietary habits.<sup>[2]</sup>

The incidence of carcinoma GB is more in Native Americans, South American populations, people from Poland and Northern India.<sup>[3]</sup>

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*Corresponding Author:*

*Dr. Ravindra Kumar Goyal,*

*Room No. 16, Resident Hostel,*

*King George Medical University, Lucknow.*

*E-mail: drravigoyal2807@gmail.com*

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The incidence is low in Chennai (0.6 per 100,000 population) and in Bangalore (0.8 per 100,000), but recently statistically significant increase in Gallbladder cancer incidence rates has been reported for Mumbai, Chennai and Bangalore.<sup>[4]</sup>

Clinically they present as lump in right hypochondrium and are painless unless otherwise they are associated with gall stones. Gallstones are the cause or the effect is still debatable question for its aetiology. On imaging, a mass replacing the gall bladder was seen in 73% patients. Gall stones were present in 54% patients.<sup>[5]</sup>

Preoperative diagnosis now a days increased with the availability of Ultrasonography where one may find stones associated with some kind of luminal growth or thickening of the wall of gallbladder but many times it can be found incidentally during operating for simple cases of gall stones. Carcinoma GB is diagnosed in 0.3-1.5% of all cholecystectomy specimens.<sup>[6]</sup>

Surgery related to the diseases of the gallbladder is increasingly become one of the most common major surgical procedure.

In present study clinical and pathological behaviour of patients suffering from gall bladder carcinoma admitted in Department of General Surgery, S.M.S. Medical College & Hospital, Jaipur was assessed.

**OBJECTIVES:** To analyse the demographics, clinical presentation and the diagnostic modalities in patients with carcinoma gallbladder and to assess the various treatment modalities which have been offered.

**MATERIALS AND METHODS:** This prospective study was carried out on patients with carcinoma of the gall bladder, who were admitted in SMS hospital, Jaipur, India from 2011 to 2012. After taking the informed consent of the patients, a detailed clinical history which was related to their demographics and clinical manifestation was taken. Various diagnostic modalities and treatment were analysed. All the patients who presented with features which were suggestive of biliary diseases were evaluated by using abdominal ultrasonography and only those with a confirmatory diagnosis which was either by CT or by histopathology means were included in the present study.

**RESULTS:** A total of 75 patients were included in the study who consisted of 60 females and 15 males with a ratio of 4:1. Their ages ranged from 25 years to 85 years with a mean of 55 years.

Among these, 68 patients (90.7%) presented with pain abdomen, 25 patients (33.3%) present with obstructive jaundice, 14 patients (18.7%) with a lump in the right hypochondria. The clinical findings are shown in [Table 1]. All the patients underwent routine haematological and biochemical investigations [Table 2]. Among these, 27 cases had anaemia and the liver function tests were abnormal in 25 patients with obstructive jaundice, with a significant rise in the direct bilirubin and alkaline phosphatase levels.

Ultrasonography (USG) was done in all the patients. A majority had gall bladder fossa mass with liver extension. Gall stone was detected in 52 cases. A majority of them had multiple gall stones.

A contrast enhanced computed tomography (CECT) was done in majority of the cases. Majority had GB mass infiltration to adjacent organs. The results are shown in [Table 3].

The treatment which was offered is shown in [Table 4]. The most common histopathological variety of carcinoma Gallbladder was Adenocarcinoma (62.7%). Histological pattern is shown in [Table 5].

Symptoms	No. of cases	%
Pain abdomen	68	90.7
Jaundice	25	33.3
Lump abdomen	14	18.7
Weight loss	10	13.3
Pruritus	8	10.7

Fever	5	6.67
Ascites	3	4
Vomiting	3	4

**Table 1: Clinical findings of gall bladder carcinoma**

Laboratory/ Radiological investigation	No. of patients	%
Anaemia (Hb<10gm.%)	27	36
Jaundice (Bilirubin>2mg/dl)	25	33.3
USG (Showing lump/mass)	50	66.7
CT Scan (showing lump/mass)	50/59	84.75

**Table 2**

CT findings	No. of cases	Percentage
GB wall thickening	4	5.3
GB mass without infiltration to adjacent organs	9	12
GB mass infiltration to adjacent organs	46	61.3
CT was not done	16	21.3
<b>Total</b>	<b>75</b>	<b>100</b>

**Table 3**

Treatment	No. of cases	Percentage
Not willing/fit for treatment	26	34.7
Simple Cholecystectomy	13	17.3
Extended Cholecystectomy	12	16.0
Biopsy And Palliative Surgery	17	22.7
FNA and Chemotherapy	7	9.3
<b>Total</b>	<b>75</b>	<b>100.0</b>

**Table 4**

12 patients underwent extended cholecystectomy for localized gall bladder carcinoma, simple cholecystectomy for 13 patients, palliative surgery for 17 patients, FNA with chemotherapy for 7 patients and 26 refused any form of therapy and they were discharged.

Histopathology	No. of Cases	%
well differentiated adenocarcinoma	12	16.0
Moderately differentiated adenocarcinoma	25	33.3
poorly differentiated adenocarcinoma	7	9.3
Squamous cell carcinoma	3	4.0
Undifferentiated adenocarcinoma	2	2.7
Mucinous adenocarcinoma	1	1.3
anaplastic carcinoma	1	1.3
undifferentiated carcinoma	22	29.3
metastatic carcinoma	2	2.7
<b>Total</b>	<b>75</b>	<b>100.0</b>

**Table 5**

**DISCUSSION:** Carcinoma of the gall bladder is a rare malignancy which arises from the gall bladder mucosa. It is the 5th most common tumour of the gastro-intestinal tract. Its clinical presentation is non-specific, with a vague symptomatology. The disease is advanced at presentation because the tumour directly involves the liver early and it also invades the contiguous organs.<sup>[1,7,8,9,10,11,12,13]</sup> Because of the advanced stage at presentation, there is no role for curative resection.<sup>[1,2,6]</sup>

The age group of the patients was 25-85 years with a maximum incidence in the fifth decade of life, which compared well to the worldwide peak incidence which was reported in the sixth or seventh decades of life.<sup>[7,14,15]</sup>

The reported female to male ratio worldwide is 4:1 and we found a ratio of 4:1. The disease was found to be more common in the northern states of India. The various risk factors included age, sex, gall stones, diet and chronic inflammation.<sup>[1,4]</sup> The geographical variations may reflect cultural, dietary or genetic differences in the population. The incidence of gall bladder carcinoma was found to be more in females than in males because the incidence of gall stones and bladder diseases was more common in females. There was an increased incidence of gall bladder carcinoma in north India because of the increased incidence in gall stones there.<sup>[1,4,13,16]</sup> Physical trauma which was produced by the stones might have resulted in epithelial dysplasia and ultimately in the progression to carcinoma. In our study, 69.3% of the patients had associated gall stones. While a histopathological diagnosis is crucial for the discovery of incidental carcinoma, it is only supportive otherwise, as CT scan is highly sensitive and specific but it also correlates well with the final staging of the disease.<sup>[7,8,9,10,11,12,16]</sup> The staging and the pattern of the spread are clearly defined by the presence or absence of the direct invasion of the adjacent organs, this being the important prognostic factor.<sup>[1,4,17,18]</sup> Abdominal ultrasound is a valuable screening method for the early detection of the carcinoma, as it is seen as a polypoidal mass or a thickened wall. However, it will detect carcinoma only in 30-50% of the cases. Abdominal CT is a sensitive method and it shows the thickened wall and the contrast enhancement of the gall bladder. Recently, endoscopic ultrasound was found to be valuable in the early detection and staging of the gall bladder carcinoma.<sup>[6,7,9]</sup>

In our study, 59 patients underwent CT scan, which proved to be diagnostic; the recent advances in radiology have increased the diagnostic yield.<sup>[1,4,7,8,9,10,11,12]</sup>

The key finding was the lymphatic spread of the gall bladder cancer: the cystic, pericholedochal, and the posterosuperior peripancreatic nodes. An extended lymph node dissection plus or minus an extended liver resection should be performed in some patients with more advanced disease. However, there was no survival advantage to the more radical procedures, including bile duct resection or pancreaticoduodenectomy.<sup>[1,15]</sup>

Owing to the strong association of gallstones with the disease, attempts should be made to convince the patients regarding the risks which are involved, to ensure an early cholecystectomy, more so in patients with stones which are

larger than 3 cm, who reside in a high-incidence area. A routine histopathological examination of all the cholecystectomy specimens is a must. The decision as to which therapeutic option should be used, depends on whether the carcinoma has been diagnosed pre-operatively, per-operatively or post-operatively, as well as on the stage of the disease—that is, whether it is localized resectable, localized unresectable or advanced disease. Any detection of unsuspected carcinoma in stage I following cholecystectomy needs only a meticulous follow-up. If the disease is detected in stage II, a radical cholecystectomy is required, and beyond this stage, an adjuvant therapy in the form of radiotherapy or chemotherapy or both is required, even though its role is not well elucidated.<sup>[2,18]</sup>

The recommended surgical management of the stage I disease is simple cholecystectomy. The growth is restricted to the mucosa and the submucosa without involvement of the muscle layer. Hence, a simple cholecystectomy in these patients is curative. There was no need for re-exploration for an extended resection and a completion cholecystectomy.<sup>[9]</sup> Patients underwent an extended cholecystectomy with liver wedge resection. In the presence of ascites with or without liver metastasis, even the palliation of obstructive jaundice may not be possible.<sup>[7,8,9,10,11,12,13,17,18]</sup>

**CONCLUSION:** Carcinoma Gallbladder was found to affect predominantly the older patients after the age of 40 year with male to female ratio 1:4. Cholelithiasis was found in 69.3% patients of carcinoma Gallbladder. The most common clinical presentation was pain abdomen (90.7%) followed by Jaundice (33.3%), Lump abdomen (18.7%), Weight loss (13.3%), Pruritus (10.7%) and Ascites (4.1%). Diagnosis of carcinoma Gallbladder rest on USG, CT Scan and FNAC. Sometimes it was found incidentally on pathological examination after cholecystectomy. The most common histopathological variety of carcinoma Gallbladder was Adenocarcinoma (62.7%). Majority of patients were treated with palliative measures, extended cholecystectomy was done in 16% cases. Mortality rate in study was 1.3%.

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