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Clinical Profile of Patients with Carcinoma Gall Bladder a North Indian Perspective

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Abstract

Background: Gallbladder cancer (GBC), although rare, is the most common of biliary tract malignancy. It has been thought to be fatal disease with an extremely poor prognosis. Gallbladder cancer is often discovered incidentally after cholecystectomy performed for gall stone disease. **Material & Methods:** It is an retrospective observational study conducted in our surgical unit of Guru Gobind Singh Medical College and Hospital, Faridkot, India. Case records of 106 patients, from June 2017 to December 2022 were analyzed. **Results:** A total of 56% cases were in more than 60 years of age group and the mean age recorded was 58 years. 54.7% cases were females and 62.3% cases had a rural background. 59.4% of the cases were from lower socio-economic strata. A body mass index of more than 30 was recorded in 72.7% cases. 62.3% patients gave history of tobacco abuse. 39.6% cases were natives of Punjab and 37.8% cases were migrants from the Gangetic belt (Uttar Pradesh and Bihar). Pain abdomen was the most common presenting symptom found in 67.9% cases. 54.7% cases presented with abdominal mass. Majority of the patients (67.9%) reported in Stage 4 of the disease. Fundus involvement was seen in 45.3% cases. 94.3% cases had associated gall stones with 64.2% cases having multiple stones. **Conclusion:** We studied the clinical profile of the patients with gall bladder carcinoma and found its high incidence in the fifth decade of life and its association with female sex, low socio economic status, obesity, local and Gangetic belt ethinicity, gall stones and a late stage at presesentation.

Keywords:- Hospital milieu, Healthcare associated infections.

INTRODUCTION

Gallbladder cancer (GBC), although rare, is the most common of biliary tract malignancy.[1] It has been thought to be a fatal disease with an extremely poor prognosis. Gallbladder cancer is often discovered incidentally after cholecystectomy performed for gall stone disease. The negativity associated with gallbladder cancer is attributed to late presentation, frequently with metastatic and locally advanced disease, poor prognosis, and lack of efficient chemotherapy. Gallbladder cancer has a propensity to spread early via lymphatic, blood, and peritoneal metastases

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and also has the exceptional capability to establish along surgical tracts and wounds.[2]

The global incidence of gallbladder cancer varies considerably by region and ethnic group.[3]

Women are affected two to four times more often than men.[4] The highest incidence of gallbladder cancer is found in Chilean Mapuche Indian women (27.3 cases per 100,000 persons annually), Indian women (22 cases per 100,000 persons yearly), and natives of North America (7.1 cases per 100,000 cases yearly).[5]

Incidence of GBC in females in northern India is as high as 9/100,000 annually as compared to 1/100,000 per year in western and southern regions.[6,7]

Survival after a diagnosis of advanced disease is around 6 months with 5‑year survival rate of around 5%. Diagnosis is delayed as the symptoms imitate that of gallstone disease or acid peptic disease and are often neglected. This is further complicated by difficulty in diagnosis of early GBC at an early stage with routine investigations such as abdominal ultrasonography.[2,8]

The most consistently implicated etiologic factor in the development of gallbladder cancer is cholelithiasis and chronic inflammation. Of gallbladder cancer cases, 75% to 90% occur in the setting of cholelithiasis.[9] The relative risk of gallbladder cancer in patients with stones larger than 3 cm has been put at 10.1.[10] Similar results were reported in another case-control study that compared gallstones in patients with gallbladder cancer to gallstones in patients with benign gallbladder disease.[11] There were significantly more stones, heavier stones, and increased stone volume in the patients who had gallbladder cancer. The epidemiology of gallstones is analogous to that of gallbladder cancer.[12]

There are three common clinical scenarios for gallbladder cancer: (1) identified by final pathology after routine cholecystectomy; (2) discovered intraoperatively; and (3) suspected before surgery.[13] The contrast enhanced computerized tomography scan is presently the modality of choice for confirming the diagnosis and staging the disease. [Figure 1 and 2]

MATERIAL AND METHODS

It is a retrospective observational study conducted in our surgical unit of Guru Gobind Singh Medical College and Hospital, Faridkot, India with ethical rule compliance. Case records, from June 2017 to December 2022, were observed for age, gender, occupation, socioeconomic status, body mass index (BMI) clinical features, radiological findings (size, site, status, stage). A total of 106 patient records were analyzed. The demographic characteristics include age, sex, and socioeconomic status. Nonclinical risk factor includes parity, obesity, menstrual status, and use of contraceptive pills among premenopausal female. Diagnosis of gallstone, serum level of triglycerides, total cholesterol, and diabetes were taken as clinical risk factor. Use of vegetarian diet and nonvegetarian diet was included in dietary habit.

Clinical profile included performance status, presenting symptoms, duration of symptoms, presence of jaundice, stage and extent of disease, number and sites of metastasis, and

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pathological features. Interview technique was used to collect the information about demographic characteristics, nonclinical characteristics, and dietary habit. A questionnaire developed specially for the study was used for the interview. All subjects were followed up for 3 months. Socioeconomic status was determined as per the modified Kuppuswamy's socioeconomic scale. Documentation of clinical features was done by history, physical examination, and imaging features. GBC and stones were confirmed by the ultrasound and computed tomography (CT) scan report.

RESULTS

Table 1: clinical attributes of Carcinoma Gall Bladder patients.

Attribute		**Frequency**	**Percentage**
Age in years	<40	Nil	Nil
	41-50	18	16.9
	51-60	28	25.41
	>60	60	56.6
Gender	Male	48	45.3
	Female	58	54.7
Residence	Urban	40	37.7
	Rural	66	62.3
Socioeconomic status	Upper	9	8.5
	Middle	34	32.1
	lower	63	59.4
Admission	Elective	68	64.2
	Emergency	38	35.8
Diet	Vegetarian	62	58.4
	Non vegetarian	44	41.5
Family origin	Punjab	42	39.6
	Immediate neighbor states (Haryana, Rajasthan, Himachal Pradesh, Jammu and Kashmir UTs)	24	22.6
	Others (Uttar Pradesh and Bihar)	40	37.8
BMI	>25	30	28.3
	>30	56	52.8
	>40	20	18.9
Menstrual status	Menstruating (of 58 female patients)	24	41.4
	Menopausal	34	58.6
Parity	<2	27	46.6
	>2	31	53.4
Alcohol	Yes	41	38.6
	No	65	61.4
Tobacco abuse	Yes	66	62.3

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	No	40	37.7
Clinical features			
Fever		18	16.9
Pain abdomen		72	67.9
Jaundice		42	39.6
Chest findings		12	11.3
Abdominal lump/mass		58	54.7
Ascites		28	26.4
Focus of Cancer in Gall Bladder			
Fundus		48	45.3
Body		36	33.9
Neck		18	16.9
Generalized		4	3.9
Stage	Stage 1	10	9.4
	Stage 2	6	5.6
	Stage 3	18	16.9
	Stage 4	72	67.9
Spread	Liver	64	60.4
	Other locoregional organs like colon,duodenum	32	30.3
	Metastasis	72	67.9
Involvement of more than one organ		54	50.9
Anaemia		72	67.9
Hypercholesrolemia		43	40.6
Liver function Tests			
Raised bilirubin (> 17µmol/L)		42	39.6
Raised transferase enzymes (> 60 units /L)		38	35.8
Raised alkaline phosphates (> 150 units/L)		74	69.8
Low serum albumin (< 35 gm / L)		51	48.1
Gall stones	Present	100	94.3
	Absent	6	5.7
Gall stones	Single	38	35.8
	Multiple	68	64.2
Co morbidities			
Diabetes mellitus		36	33.9
Hypertension		40	37.7
Others like hypothyroidism, COPD etc		22	20.75
Management			
Surgery		12	11.3
Chemotherapy [neoadjuvent and palliative]		94	88.7

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A total of 56% cases were in more than 60 years of age group and the mean age recorded was 58 years. 54.7% cases were females and 62.3% cases had a rural background. 59.4% of the cases were from lower socio-economic strata. A body mass index of more than 30 was recorded in 72.7% cases. 62.3% patients gave history of tobacco abuse. 39.6% cases were natives of Punjab and 37.8% cases were migrants from the Gangetic belt (Uttar Pradesh and Bihar). Pain abdomen was the most common presenting symptom found in 67.9% cases. 54.7% cases presented with abdominal mass. Majority of the patients (67.9%) reported in Stage 4 of the disease. Fundus involvement was seen in 45.3% cases. 40.64 % cases had dyslipidemia and 67.9% cases had anaemia. 69.8% cases had raised alkaline phosphatase levels. 94.3% cases had associated gall stones with 64.2% cases having multiple stones. 11.3% had surgical intervention while 88.7% cases were managed with neo adjuvant and palliative chemotherapy.

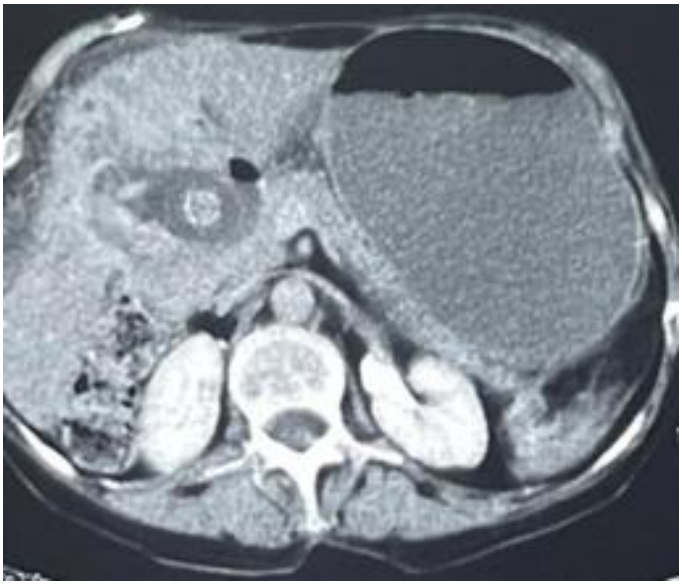

Figure 1: GBC with a gall stone and liver infiltration

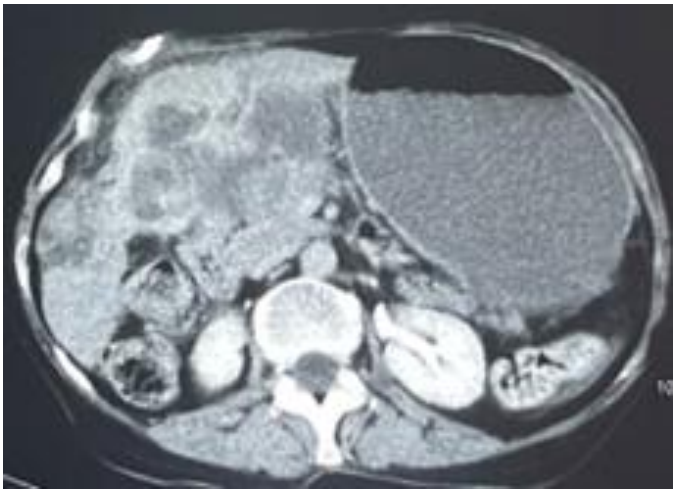

Figure 2: GBC with multiple liver metastases and liver infiltration

DISCUSSION

Gall bladder carcinoma is a highly malignant condition, that often is diagnosed in a late stage and has carried a poor prognosis. This underlines the requirement to identify potential risk factors and devise preventive and surveillance programs.

Batra Y et al reported the mean age of patients was 51 ± 11 years and men: women ratio of 0.36:1.00. they reported abdominal pain, jaundice and hepatomegaly in 81.0%, 76.0% and 61.5% patients, respectively. They found gallstones in 54% patients. They found that the highest number of cases reported late with stage 4 disease. We too report a mean age in the fifth decade, higher incidence in females and a late presentation trend with advanced disease. We found a higher association with gall stone disaease, this may be due to difference in at risk populations.[14]

Jain K et al in their study on Indian subjects reported mean age 51.7 years; female

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predisposition, chemical exposure, family history of gallstones, tobacco, fried foods, joint family, long interval between meals and residence in Gangetic belt as the risk factors. This corroborates with our study.[15]

In 2018, Dubey A.P. et al in their study reported majority of the patients to be females and a median age of 51.8 years. They also reported that more than half of the female cases were postmenopausal (56.60%), and a high parity was seen in 39.62% of females. They reported obesity to be a factor only in females. They found 83.82% of their cases to have advanced stage disease, with metastatic disease in 72.06% patients. They reported approximately 50% patients to be natives of the states of Uttar Pradesh and Bihar. This is similar to the findings of our study, though obesity in our study was a factor for both male and female cases. The incidence in local native population was also found to be higher than the natives from Gangetic states.[16]

Gall bladder carcinoma is an overwhelming disease with restricted treatment alternatives. The only viable option for management is surgery, that is feasible only in an early stage. Hence risk factor assessment and early diagnosis are the keys to control disease associated mortality.

CONCLUSIONS

We studied the clinical profile of the patients with gall bladder carcinoma and found its high incidence in the fifth decade of life and its association with female sex, low socio-economic status, obesity, local and Gangetic belt ethinicity, gall stones and a late stage at presesentation. We call for a larger study for risk factor assessment and devising surveillance programs for an early diagnosis and treatment.

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