

HEPATOCELLULAR CARCINOMA PROFILE IN A TERTIARY CARE CENTRE

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ABSTRACT**BACKGROUND**

HCC is the fifth most common cancer in the world. Overall, it has a poor prognosis making it the second leading cancer in terms of cancer-related mortality. A comprehensive analysis of patients with this disease is not available in India.

MATERIALS AND METHODS

A retrospective study was conducted to study the clinical features, biochemical and radiological features of patients presenting with HCC in the Department of Gastroenterology, Government Medical College, Kottayam, Kerala, during January 1, 2015 - December 31, 2016. After applying inclusion and exclusion criteria's, patients with HCC were included in the study.

RESULTS

84 patients were diagnosed to have HCC during the study period with male predominance. 51 males and 33 females. Mean age of presentation was 54.6 years. HCC developed in the background of cirrhosis in 97.7% cases. Most common presentation was decompensation of the underlying chronic liver disease. Alcohol was the leading aetiology. Multicentric nature was seen in 78.6% cases. AFP was elevated only in 28.5% cases. Portal vein thrombosis was present in 31.95% cases. 84.2% cases presented in advanced state according to BCLC classification.

CONCLUSION

Alcohol is the leading cause of cirrhotic patients who develop HCC followed by NAFLD. Most of the HCC patients presented with advanced diseases when curative therapeutic options are out. Study calls for creating public awareness about the causes of cirrhosis and its consequences. It also highlights the need for meticulous periodic USG screening in cirrhotics to detect early lesions.

KEYWORDS

Hepatocellular Carcinoma Profile, Alcoholic Liver Disease, NASH.

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BACKGROUND

Hepatocellular Carcinoma (HCC) is one of the most common malignant tumours worldwide with an estimated 5,00,000 to 1 million new cases per year.¹ In 2002, the estimated number of new cases of HCC worldwide was 6,25,000. The incidence of HCC ranges from 4 cases per 1,00,000 population in USA to 150 cases per 1,00,000 population in parts of Africa and Asia.² An estimated 14.1 million new cancer cases and 8.2 million cancer deaths occurred worldwide in 2012.³ According to Globocan 2012 data worldwide, HCC is the 5th most common malignancy in males and 9th most common malignancy in females. 82% cases of hepatocellular carcinomas occurred in developing countries, with 55% being in China alone. China, South-Eastern Asia

and areas of Africa have a very high incidence (>20/1,00,000 population) of HCC. HCC is more common in men than in women (male:female ratio of 2.4:1). Most often, hepatocellular carcinoma develops within a background of chronic liver disease. Variations of the causative factors for underlying chronic liver disease explain the epidemiological heterogeneity of HCC.³

Information on epidemiology of hepatocellular carcinoma in India is highly fragmented.³ Cancer registries probably do not accurately reflect the incidence of HCC. Apart from oncologists, HCC is managed by varied specialists like general surgeons, GI surgeons, gastroenterologists, etc. because of which the disease doesn't get registered. Cancer is not a notifiable disease in India. 8 out of 20 PBCRs do not list HCC in the first 10 causes of cancer. Available data indicates that the Age-Adjusted Incidence Rate (AAIR) for men ranges from 0.7-7.5 and for women 0.2-2.2 per 1,00,000 population.⁴ Male-to-female ratio is approximately 4:1. HCC constitutes 4.8% of all cancers. Median age of presentation of Indian patients with liver cancer has been noted to be 40-70 years. Cirrhosis of liver has been noted in 70-90% of patients treated in tertiary cancer centres in India. Hepatitis B virus infection has been documented as

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the probable causative agent in majority of HCC in Indian patients.⁴⁻¹⁰

Studies have reported that more than 80% of patients with HCC in high incidence areas such as East Asia and Sub-Saharan Africa were seropositive for Hepatitis B Surface Antigen (HBsAg) where only 10% to 15% of the population is known to be HBsAg positive. In areas with low HCC incidence like Japan, Europe and North America, Chronic Hepatitis C infection (CHC) is more commonly associated with HCC and is largely responsible for the increase in incidence of HCC in the last several decades. In India, Chronic Hepatitis B infection (CHB) has been reported to be the leading cause of HCC in studies from New Delhi, Chandigarh and Hyderabad.¹¹⁻¹⁴

Aims and Objectives

This study is a retrospective review of hepatocellular carcinoma cases registered between January 1, 2015, to December 31, 2016, in the Department of Gastroenterology, Government Medical College, Kottayam.

The details of patients were obtained from patients' files kept in the medical record department, information collected included sociodemographic data, clinical presentation, risk factors for HCC, investigations, anatomical site, macroscopic appearance, tumour stage and histopathological type.

Inclusion Criteria

All cases meeting the EASL diagnostic criteria for HCC were included.

Exclusion Criteria

Case records with incomplete data were excluded. Those cases whose records were incomplete were excluded. SPSS Software used for statistical analysis.

RESULTS

84 patients were diagnosed with Hepatocellular Carcinoma (HCC). There were 51 males and 33 females (male:female ratio 1.5:1) with a mean age of 54.6 years. Oldest case of HCC was 86 years and the youngest case was 34 years.

Characteristics	Values	Percentage
Males	51	60.71
Females	33	39.29
Male:female ratio	1.5	
Age mean	54.6 years	

Table 1. Age and Sex Distribution

57 patients (67%) had decompensation of underlying chronic liver disease. Majority, i.e. 68 (80.95%) patients presented with less than 8 weeks of symptom duration.

Clinical Features	Values	Percentage
Symptom duration <8 weeks	68	80.95
Symptom duration >8 weeks	16	19.07
Abdominal pain	60	71.42
Decompensation of cirrhosis	57	67.86
Anorexia	74	88.0
Hepatomegaly	69	82.1

Table 2. Clinical Profile

Alcohol intake was the leading aetiology of cirrhosis in 48 patients (57.14%). NASH was the underlying aetiology in 27 (32.14%) patients.

Aetiology	No. of Patients	Percentage
Alcohol	48	57.14
NASH	27	32.14
HBV	7	8.33
HCV	2	2.3

Table 3. Probable Aetiology

Anaemia, hyperbilirubinaemia, ALP >3x upper limit of normal levels occurred respectively in 28 (33.3%), 32 (38.09%) and 27 (32.13%) cases.

Parameters	No. of Patients	Percentage
Hb <10.0 gm/dL	28	33.33
S. bilirubin >3 mg/dL	32	38.09
S. ALP >3 x ULN	27	32.13

Table 4. Haematological Parameters

In our study, only 25% of the total cases, i.e. 25 patients had S. AFP level more than 400 ng/mL.

Mean S. AFP Value	No. of Patients	Percentage
No. of patients with S. AFP <400 ng/mL	63	75
No. of patients with S. AFP >400 ng/mL	21	25

Table 5. AFP Levels

Bilobar involvement of the liver was present in 61 patients, i.e. 71.6% of the cases. Most of the lesions were in the range of 2.0-5.0 cm. Portal vein thrombosis was present in 26 cases (30.95%).

Parameters	Number	Percentage
Single lesion right lobe	14	16.6
Single lesion left lobe	9	10.71
Bilobar involvement	61	71.62
Largest lesion <2 cm	10	1.90
Largest lesion 2-5 cm	54	64.28
Largest lesion >5 cm	20	23.80
Portal vein thrombosis	26	30.95

Table 6. Tumour Characteristics

In our study, none of the patients presented with very early HCC. BCLC C and BCLC D were occupied by 37 (44.4%) and 20 (23.8%) patients, respectively.

BCLC Stage	Number of Patients	Percentage
0	0	0
A	9	10.71
B	18	28.12
C	37	44.04
D	20	23.83

Table 7. BCLC Stage

DISCUSSION

Clinical profile of HCC has been published from various tertiary cancer centres in India. HCC data from South India is scanty. Mean age of our patients was 54.6 years, which is

similar to other reported studies from India. Male-to-female ratio was 1.5:1. Other studies from India have reported a higher male preponderance.^{9,15} Majority presented with symptoms of decompensation of CLD presentation. Abdominal pain or discomfort was the dominant symptom in 30% patients followed by loss of appetite in 88% of patients. Anorexia (88%) and abdominal pain (71.4%) were the dominant symptoms in a study from eastern India.¹⁵ Another study from North India too noted weakness and anorexia as the main presenting features.⁹ Symptom duration was less than 8 weeks as seen by most other Indian studies. 82% of our patients had hepatomegaly compared to study by Mukherjee et al where they noted hepatomegaly in all their patients.¹⁵ Alcohol was the leading cause of cirrhosis (57.4%) in our study. One of the striking outcome of our study is the observation that NAFLD is the second common cause of chronic liver disease in HCC patients observed in 27 (32.13%) patients. The prevalence of HBV positivity in Indian HCC patients ranges between 36-74%.^{9,16} However, we noted only 8.3% of our patients with HCC being HBsAg positive. Two patients had HCC in the background of HCC related cirrhosis. Kumar R et al have reported HBV infection at 73% and evidence of HCV infection in 15% of their patients¹⁰ as observed in other Indian studies. Serum AFP was raised to more than 400 ng/mL in 25% of our patients. Majority of the lesions had bilobar involvement (71.62%) with 64.2% patients had lesions in the range of 2-5 cm. Only 20 patients (23.8%) had lesions above 5 cm diameter. Portal vein thrombosis was present in 26 (30.9%) individuals. Most of the patients in our study belonged to BCLC stage B and stage C.

CONCLUSION

Alcohol-related CLD is the commonest underlying aetiological factor for HCC in our region. NAFLD is a growing non-communicable epidemic in developed and developing nations. In our study, it is the second aetiology for chronic liver disease. This should be approached seriously and public awareness should be created about metabolic syndrome and its potential complications including fatty liver.

Major differences noted in our study have been low prevalence of HBV and HCV-related CLD in HCC patients at our centre. Most of the cases present when the curative therapeutic options are out. Hence, periodic USG surveillance in indicated cases is mandatory.

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