

To Study the Demographic Profile of HCC Patients and the Pattern of Clinical Characteristics in a Tertiary Care Centre of North Western India

Amolpreet Kaur¹, Parminder Singh², Manish Chandey³

¹Senior Resident, Department of Internal Medicine, SGRDIMSRS, Sri Amritsar, Punjab, India

²Senior Medical Officer, ESIC Hospital, Ludhiana, Punjab, India

³Professor, Department of Internal Medicine, SGRDIMSRS, Sri Amritsar, Punjab, India

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Corresponding author: Dr. Amolpreet Kaur

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Abstract:

Objective: To study the demographic profile of Hepatocellular cancer patients and the pattern of clinical characteristics in a tertiary care centre of north western India.

Methods: A retrospective study of the patients diagnosed with HCC presenting in the OPD/IPD of Sri Guru Ram Das Institute of Medical Sciences and Research, Amritsar, Punjab.

Results: We studied 164 patients diagnosed with Hepatocellular carcinoma. The Demographic profile showed higher mean age than the data for the whole India (58 +14.4 years) (range 18–88 years). Etiological profile showed Hepatitis C as the most prevalent cause 44.6% followed by Hepatitis B. This pattern is different from the pattern of rest of India and matches that of western world.

Keywords: Hepatocellular Cancer, Demographic Profile, Alcohol.

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Introduction

Hepatocellular carcinoma (HCC) is one of the most prevalent malignant tumors worldwide and the 5th most common cancer in the world. In areas like India which is endemic for Hepatitis B and C, it is extremely common. Also, other risk factors like alcohol are on the rise and with the vaccination program for Hepatitis B, the demographic profile of etiology is facing a shift, especially in the North West region of India [1].

From a pattern of being Hepatitis B endemic zone and being the most common cause of chronic liver disease in India, Hepatitis C being a hidden factor and presenting as HCC as the only symptomatic presentation is turning heads. The profile of the North western region is matching the west despite the lifestyle pattern is very different [2].

In this study a retrospective data evaluation for the past 6 years was studied and an entirely shifting pattern profile than the earlier Indian data was made note of. This was to establish the difference in the etiological factor of HCC compared to rest of the country due to local factors causing the change.

Methods

All patients of HCC presenting to the Oncology OPD and IPD of Sri Guru Ram Das Rotary Cancer Hospital, Sri Amritsar under SRDUHS, Sri Amritsar, a tertiary care Centre in Punjab; North

western India and catering to populations coming from J&K, Punjab, Himachal Pradesh & Haryana; between 2017 – 2022 were included in the study.

Study Design: Patients already diagnosed with HCC and presenting to the Oncology OPD for treatment and those who were diagnosed at our hospital between 2017-2022 were included in our study and the data was collected retrospectively from the case records.

Patient Evaluation: Patient was subjected to clinical evaluation including detailed history to list out the presenting signs and symptoms and also to make out any causation from the history pattern like alcohol, blood transfusion, i.v. drug abuse or other means of unsafe needle use in the periphery.

Laboratory Investigation included routine evaluation -Complete blood counts, Liver Function tests, renal function tests, viral markers for HBV and HCV. Serum Alpha-fetoprotein (AFP) was estimated using a particle enzyme immunoassay.

Hepatitis viral markers included HBsAg, IgM Anti HBc, HBV Quantitative DNA, HCV RNA were first detected using qualitative PCR and if they were positive, they were quantitated.

Radiology work up included Ultrasound abdomen, Triple Phase CT abdomen was done for all patients

and PET Ct scan was done to ascertain the extent of the disease before instituting therapy.

Diagnosis of cirrhosis was made on basis of clinical, biochemical & endoscopic findings. HBV cirrhosis was diagnosed when detectable HBsAg in serum was present. HCV cirrhosis was diagnosed when detectable anti-HCV, HCV RNA or both was present in serum. Alcoholic cirrhosis was labelled when the patient had a history of alcohol consumption of more than 80 g/day for more than 5 years. Severity of cirrhosis was graded based on the Child-Pugh classification.

Diagnostic criteria for HCC were any of the following: AFP more than 500 ng/ml or hyper vascular liver mass on contrast-enhanced CT abdomen Triple phase or Fine needle aspiration cytology (FNAC). The modified European Association for Study of Liver criteria was followed, which consisted of either FNAC or any 2 of the following: AFP more than 500 ng/ml or arterialization of the mass on TPCT or MRI.

Treatment: Various types of treatment therapies available at our centre, were given keeping into account factors like stage of the disease, underlying presence of cirrhosis and its severity. Therefore, findings on TPCT/PET CT indicating tumour burden, portal vein involvement, presence of extra-hepatic disease or distant metastasis were recorded. Child's score and PST score of the patient was also noted and the treatment was then finally decided. Stage A patients were offered surgery if their liver function was good with no clinically relevant portal hypertension. If not, then surgery could not be

undertaken, and instead local ablative therapies were performed. Local ablative therapies were radiofrequency ablation and were undertaken at our centre. RFA was done in those patients who had HCC less than 5 cm and less than 5 in number. Also, Trans Arterial Chemo Embolization was performed.

Surgical Options- included Lobectomy / Hepatectomy depending upon the extent of the lesion.

Oral Chemotherapy options included-Sorafenib.

Add On Therapy: All patients with cirrhosis who had evidence of high-risk varices on endoscopy underwent primary prophylaxis with endoscopic variceal banding. Patients who had HBV-related HCC along with markers of active viral replication were given antiviral treatment. The other complications of chronic liver disease and HCC were managed with conventional treatment.

Results

A total of 164 patients with HCC were registered in the liver clinic. The mean age at presentation was 58 +14.4 years (range 18–88 years) and 131(80%) of them were males. Abdominal Pain was the predominant symptom in the right upper quadrant or epigastric in location presenting in 67% of the patients.

Patient presenting with complaint of abdominal distention were less upto 44% and about 14% presented with Ascites. Half of them complained of associated abdominal pain. Patients presenting with weight loss stood at 21%.

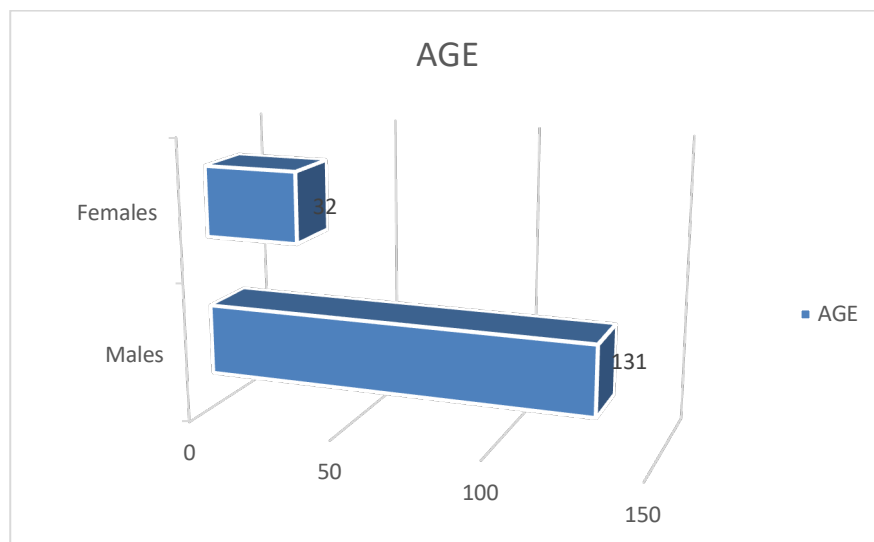


Figure 1: Age

History of episodes of acute hepatitis in 27% and those with chronic hepatitis stood at 58%. History of significant intake of alcohol was present in 14% with a mean intake of 92 g/day and median duration of 17.5 years (range 0–40). Association with serum biochemical markers and Child Pugh score is as detailed in the table below.

Table 1: Liver function tests, Child's class (n=164)

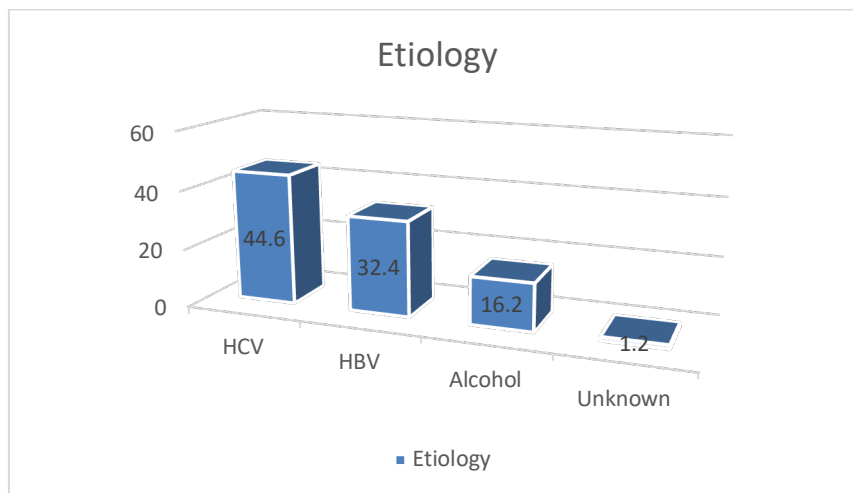
Parameter	Median(range)
Serum Bilirubin;mg/dl	1.6(0.2-18.11)
Serum Albumin,g/dl	2.8(1.08-4.2)
AST,U/l	76.4(18-466)
ALT,U/l	64.3(11-428)
Child Class A	22(17.7%)
Child Class B	82(66.12%)
Child Class C	20(16.1%)

Etiology: HCV was the most common etiological factor and was detected in 44.6 % of the patient out of which a significant number was associated with history of IV drug abuse or History of Blood transfusion in the past was present. Compared to the Pan India data pattern where HBV was the predominant factor, HCV was predominant as

etiology in this part of the country. Spread of HCV was also related to past history of blood transfusion and also use of unsafe needles by the peripheral practitioners. Alcohol association was present in 16.2% of the patients. The mean age of presentation in HBV patients was significantly lower than HCV related HCC.

Table 2: Etiological factors associated with HCC (n=124)

Etiology	n (%)
HCV	44.6%
HBV	32.4%
Alcohol	16.2%
Unknown	6.8%

**Figure 1: Etiology**

Tumor Characteristics: In 124 (76%) patients, the largest/ dominant lesion was more than 3.8 cm in size. There was a single lesion identified in 55 patients (34%) and > 5 lesions in 29 (18%). Portal vein involvement as thrombosis partial or complete was identified on imaging in 75 patients (46%).

Extra-hepatic metastasis to peri-pancreatic nodes, celiac nodes, inferior vena cava thrombosis and lungs were seen in 27 (17%) of the patients. The median serum AFP value in the 144 patients in whom it was available was 324 ng/ml (range 1.82–48,552 ng/ml).

Treatment pattern: Patient were given all options as per their clinical profile and prognosis. The treatment option sought was biased because of cost

constraints and phobia related to surgery and that attached to Cancer. A total of 17 patients opted for Radio frequency Ablation. 6 patients underwent TACE and 2 opted for Open surgery for liver lobe resection. Rest patients choose Oral chemotherapy regimens, even if they qualified for minimal invasive surgery procedures or Surgery was given an option.

Discussion

This comprehensive study was done to study the profile of patients pertaining with HCC specially in the North Western region which is plagued by different risk factors due to the border area profile and peripheral needle abuse profile in form of drug abuse or use by the quacks.

It was pertinent to see how the etiological factor profile was different from the, pattern which was seen in rest of the country. Also how HCC was the final outcome of a silent disease hidden in form of HCV and neither any pattern for detecting these silent cases is on to detect and plug the risk factor at an earlier time.

Almost all our patient about (86%) had an underlying cirrhosis and different from the usual profile pattern in the rest on Indian subcontinent, Hepatitis C was the predominant risk factor, Hepatitis B was seen as the next in line etiological factor and Alcohol abuse followed it. The pattern of the etiological factors resembled the West, even though the Socio economic and lifestyle pattern of the two vary a lot. Mean age of presentation in our study was 58.8 which is more than the age in the earlier series report.

The increase in the mean age could be attributed to the HCV being the main etiological factor HBV-related HCC patients in our study presented a decade earlier when compared to HCV-infected HCC patients, the pattern which resembled the earlier studies and with studies describing HBV as the main etiological factor [3]. HBV also showed a decrease due to increased vaccination pattern of Hepatitis B.

The study followed the strong Male preponderance as in earlier studies. Serum AFP level 500 ng/ml was taken as a conventional diagnostic level for HCC. In this study, AFP was elevated in 84% of patients, but was above the diagnostic range in only 44% of patients. Low serum levels may be either because of smaller size of tumor or due to differentiation of masses that do not produce high AFP. [4] The level of AFP did not show any correlation to the number of the lesion/ to the etiology of HCC/to the presence of malignant spread.

In conclusion, HCV is the most common cause of HCC in this part of the country followed by HBV infection. Prevention of these etiologic agents is the only realistic means of reducing the morbidity and mortality of HCC. Also, the alcohol pattern abuse needs a control. The survival of these patients can be improved by aggressively treating HCC,

complications of cirrhosis and by controlling etiological factors. Serum AFP is not a very sensitive marker for diagnosis or surveillance and there is an urgent need for better markers and imaging to diagnose smaller tumors. The way vaccine intervention has shifted the etiological profile away from hepatitis B, the factors leading to spread of Hepatitis C needs look out. Also, screening for same at larger level could plug the development at an earlier stage.

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