



**ORIGINAL ARTICLE**

**Pattern of Tumour among Hepatocellular Carcinoma Patients attended at a Tertiary Care Hospital in Dhaka City**

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**Abstract**

**Background:** The pattern of hepatocellular carcinoma may vary in different patients. **Objective:** The purpose of the present study was to see the pattern of hepatocellular carcinoma among the patients attended at a tertiary care hospital in Dhaka city. **Methodology:** This cross-sectional study was carried out in the Department of Radiology and Imaging at Dhaka Medical College, Dhaka and Banghabandhu Sheikh Mujib Medical University, Dhaka from January 2007 to May 2008 for a period of around one and half year. All the patients presented with hepatocellular carcinoma at the age group of more than 20 years with both sexes were selected as study population. The patients were undergone CT-scan examination and the confirmation was performed by histopathological examination. The details of the pattern of tumor among the hepatocellular carcinoma patients were examined and were recorded. **Result:** A total number of 50 patients were recruited in this study after fulfilling the inclusion and exclusion criteria. Mean age with SD of study population was 48.78 ±12.07. Within 25 cases of HCC as diagnosed by CT scan 13(52%) had solitary lesion 7(28%) had multiple lesions and remaining 5(20%) had diffuse lesions. The tumour size of 8 cm or more was the highest which was 10 in numbers. However, 4 to 8 cm was found in 7(28.0%) cases and 3 to 4 cm was detected in 3(12.0%) cases. **Conclusion:** In conclusion most of the HCC is solitary lesion with more than 8 cm in size. [*Journal of Current and Advance Medical Research 2019;6(1):6-9*]

**Keywords:** Pattern; Tumour; Hepatocellular Carcinoma

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**Introduction**

Hepatocellular carcinoma (HCC) is the most

common primary malignant liver tumor worldwide<sup>1</sup>. Eighty-five percent of all cases occur in the context of chronic liver disease and cirrhosis

of any etiology, but especially that associated with infection by Hepatitis B and C<sup>2</sup>. Only 15% occur in non-cirrhotic livers; however, patients with HCC have poor prognoses; it is the second leading cause of cancer-related death in men and the sixth in women<sup>3</sup>.

HCC develops in a manner similar to other solid tumors<sup>4</sup>. Especially in cirrhotic livers, hyperplastic nodules progress to low grade dysplastic nodules, then to early high grade HCC and then to HCC with even greater differentiation<sup>5</sup>. These changes depend on complex interactions among the host, the underlying disease and environmental factors<sup>6</sup>. Oxidative stress also plays an important role in carcinogenesis and tumor recurrence. In this context this present study was undertaken to see the pattern of hepatocellular carcinoma among the patients attended at a tertiary care hospital in Dhaka city.

**Methodology**

This descriptive cross-sectional study was carried out in the Department of Radiology and Imaging in Dhaka Medical College, Dhaka, Bangladesh and Banghabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh from January 2007 to May 2008 for a period of around one and half year. All the patients presented with hepatocellular carcinoma at the age group of more than 20 years with both sexes were selected as study population. The patients were undergone CT-scan examination and the confirmation was performed by histopathological examination. During the study period, total 50 cases who had undergone CT-scan examination of Hepatobiliary system were included in this study done in DMCH and BSMMU, Dhaka with close cooperation of Gastroenterology and hepatobiliary departments. Prior to commencement of the study the local approval body approved the research protocol. Statistical analyses of the results were obtained by using window based computer software devised with Statistical Packages for Social Sciences (SPSS version 16.0).

**Result**

During study period of 17<sup>th</sup> months, a total of 54 patients were selected on basis of clinical features and laboratory findings. Two were sensitive to contrast material; one had bleeding disorder and one lost histopathology report. So the study was carried out on 50 patients. A total number of 50 patients were recruited in this study after fulfilling the inclusion and exclusion criteria. Most of the hepatocellular carcinoma (44%) was in the 41 to 50 years age group followed by 51 to 60 years which was 9(18.0%) cases. The youngest patient in this

study was 22 years and the eldest 75 years. Mean age with SD of study population was 48.78 ±12.07 (Table 1).

**Table 1: Age Group Distribution of HCC Patients (n=50)**

Age group	Frequency	Percent
Less Than 30 Years	3	6.0
30 to 60 Years	38	76.0
More than 60 Years	9	18.0
<b>Total</b>	<b>50</b>	<b>100.0</b>

Within 25 cases of HCC as diagnosed by CT scan 13(52%) cases had solitary lesion; 7(28%) cases had multiple lesions and remaining 5(20%) had diffuse lesions (Table 2).

**Table 2: Pattern of Tumors of the HCC Patients (n=50)**

Lesion	Frequency	Percent
Solitary	13	52.0
Multinodular	7	28.0
Diffuse	5	20.0
<b>Total</b>	<b>25</b>	<b>100.0</b>

It had been found that the tumour size of 8 cm or more was the highest which was 10 in numbers. However, 4 to 8 cm was found in 7(28.0%) cases and 3 to 4 cm was detected in 3(12.0%) cases (Table 3).

**Table 3: Distribution of size of tumors (n=25)**

Size	Frequency	Percent
0 to 1 cm	0	0.0
1 to 2 cm	1	4.0
2 to 3 cm	2	8.0
3 to 4 cm	3	12.0
4 to 8 cm	7	28.0
8 cm or More	10	40.0
Unknown	2	8.0
<b>Total</b>	<b>25</b>	<b>100.0</b>

Group I was indicated the presence of extent of tumor better seen after I.V contrast; group II was shown the no difference; group III was represent the presence or extent of tumor better seen before IV contrast.

**Table 4: Effect of intravenous (IV) contrast material on HCC (n=25)**

Group	Frequency	Percent
Group – I	5	20.0
Group – II	9	36.0
Group – III	11	44.0

In 5(20%) cases presence on extent of tumor were better seen after IV contrast. In 9(36%) cases no

difference were seen before and after IV contrast. In 11(44%) cases extent of tumor were better visualized before I.V contrast (Table 4).

## Discussion

The differential diagnosis of HCC varies greatly depending on the underlying liver disease. In hepatic/ cirrhotic livers, HCC, its precursor lesions and cholangiocellular carcinoma occur more frequently than malignant lesions of non-hepatic origin. In patients without underlying liver disease, HCC accounts only for about 2.0% of malignant liver neoplasms<sup>3</sup>. The most common primary sites that metastasize into the liver are lung, colon, pancreas and breast. In some cases metastasis can mimic hepatocellular carcinoma. The primary tumors resembling HCC include clear-cell renal cell carcinoma, clear-cell adenocarcinoma of the female genital organs, adrenal carcinoma and hepatoid adenocarcinoma of the stomach<sup>7</sup>. Sometimes metastatic neuroendocrine tumors of the gastrointestinal tract, especially with trabecular growth pattern can also be difficult to distinguish from HCC.

During the study period from January 2007 to May 2008 total 50 cases were studied who had undergone CT examinations of Hepatobiliary system. The final diagnosis of HCC was made by histopathological examination in 38 cases.

In this study common age group affected by HCC was seen between 41 to 50 years and male female ratio seen was 6.6:1. In Britain, Hepatocellular carcinoma (HCC) was found over 50 years of age<sup>7</sup>. In Japan age distribution of HCC was found from 5 years to 100 years with a mean age of 55.5 years<sup>3</sup>. In Bangladesh, HCC was found to be common between 41 to 50 years of age group<sup>8</sup>. In this study, age of the youngest patient with HCC was 22 years and that of the eldest one was 75 years. The diseases was found to be common between 41 to 50 years of age group which correlated with the above study done in Bangladesh.

In my study it was seen that by evaluating CT, out of 25 patients of HCC 13(52%) patients had solitary lesions, other 7(28%) patients had multiple lesions and further 5(20%) patients had diffuse lesion. In a similar study done by Kunstlinger et al<sup>9</sup> found 53.0% patients of HCC had solitary lesion, 27.0% had multifocal lesion and rest 20.0% had diffuse lesions. So, this present study closely correlates with the above study.

In this study size of the main tumor were evaluated. Size of the main tumor was up to 8 cm in 13(52.0%) cases of more than 8 cm was in

10(40.0%) patients. In 2(8.0%) cases tumor size could not be detected. Tumor size less than 3 cm was found in 3 cases. Similar study done by Itai et al<sup>10</sup> found that tumor size was up to 8 cm in 55% cases and more than 8 cm in 38% of cases. In 6% cases tumor size was unknown. Smaller tumour (<3 cm) were detected in similar manner like our study. So this study is also correlated with the above study regarding tumor size.

In this study effect of IV contrast material on HCC was evaluated. The effects of contrast material after I.V. injection were grouped as, Group-I; presence or extent of tumor better seen after I.V contrast, Group-II: No difference and Group-III: presence or extent of tumor better seen before I.V. contrast. In this study 9(23%) 13(34%) and 16(42%) cases were included within group I, II and III respectively. Kunstlinger et al<sup>9</sup> found the effect of I.V contrast material on HCC by similar manner. In that study 15.0%, 38.0% and 46.0% cases were seen to be included in group I, II and III respectively which closely correlates with our present study.

CT-scan before and after intravenous administration of contrast agent is an excellent method for evaluating hepatic lesions. Cystic lesions are readily identified and abscesses are usually distinguished from tumors. Masses as small as 1 cm can usually be identified by CT-scan and the lesions can be biopsied under CT guidance.

Intravenously administered iodinated contrast material increases the density of the liver. Scans made soon after infusion or injection show the greatest opacification<sup>11</sup>. Contrast enhancement of any organ and lesion depends on the size of their vascular and interstitial compartments<sup>12</sup>.

If the goal of CT examination is detection of hypervascular hepatic lesions, use of contrast enhanced CT alone may be adequate and addition of unenhanced scans is not cost effective<sup>13-15</sup>.

## Conclusion

In conclusion most of the HCC is solitary lesion followed by multiple lesions and diffuse lesions. Furthermore the size of the majority tumor is more than 8 cm in size followed by 4 to 8 cm. Regarding use of contrast to visualize HCC tumor, most of the tumor is better visualized before contrast. This is a small scale study in a single centred based. Therefore a large scale study should be carried out to see the real scenario about the HCC.

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