FREQUENCY OF HEPATOCELLULAR CARCINOMA IN LIVER CIRRHOSIS PATIENTS

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ABSTRACT

Background: Hepatocellular Carcinoma is one of the sequelae of liver cirrhosis.

Objective: To determine the frequency of hepatocellular carcinoma in liver cirrhosis patients.

Methodology: This was a cross sectional study, conducted at Sheikh Zayed Hospital, Rhim Yar Khan from 1st July to 31st December 2017. In this study, cases of liver cirrhosis of either sex with age range of 40 to 80 years were selected. A total of study subjects were included in this study. The diagnosis of liver cirrhosis was made on the basis of shrunken liver size, with or without associated portal vein dilatation and ascites. The child pugh class was assessed by detailed clinical examination, USG and liver function tests. Hepatocellular carcinoma was labelled as yes where there was mass lesion on USG in liver with alpha fetoprotein level more than 200ng/ml. Data was analyzed by using SPSS version 20.

Results: In this study, 100 cases of liver cirrhosis were enrolled with mean age of 53.79±11.04 years. There were 58 (58%) males and 42 (42%) females. HCC was seen in 8 (8%) out of 100 cases. HCC was significantly high in males where it was seen in 6 (10.34%) of cases with p= 0.03. It was also significantly high in cases with age more than 50 years where it was observed in 5 (10.87%) with p= 0.06. In terms of child pugh class it was also significantly high in cases with class C, where all the 8 cases were seen with p= 0.001.

Conclusion: Hepatocellular Carcinoma is not that uncommon and is found significantly high in males and those with child pugh class C.

Key words: HCC, Liver cirrhosis, Child Pugh class

INTRODUCTION

Liver diseases are one of the most common diseases in the gastroenterological system and amongst them the highest burden is posed by liver cirrhosis.[1] Its number is on the rise in the developing countries and lack to health facilities lead to ongoing damage and ultimate fibrosis. Hepatitis B and C are the most common causes.[2,3] In United States HCV along with alcoholism is the most common cause.[1,2] Chronic inflammation leads to damage of the hepatocytes that further activate the inflammatory cells that lead to fibrosis of the hepatic parenchyma, which can result in various structural and functional abnormalities in the liver.[4, 5] Liver cirrhosis is associated with multiple complications; comprising ascites, portal hypertension, variceal bleeding, caput medusa, spontaneous bacterial peritonitis, porto systemic encephalopathy, hypersplenism and ultimately hepatocellular carcinoma.[3,4]

Hepatocellularcarcinoma (HCC) is the malignancy of the liver parenchyma, that can be caused due to various causes and hepatitis C associated liver cirrhosis is the most common cause of it. It is usually found incidentally on Ultrasonography (USG) as the signs and symptoms are same as that of liver cirrhosis.[6, 7] Computed tomography (CT) scan is the investigation to reveal the underlying involvement of the surrounding structures and biopsy is the investigation of choice. Alpha fetoprotein is the marker which is raised in cases of suspicion and has a high sensitivity and optimal specificity for HCC.[5-7]

This study was conducted to determine the frequency of hepatocellular carcinoma in liver cirrhosis patients.

METHODOLOGY

Study Design: Cross sectional study. Settings: Department of Medicine, Sheikh Zayed Hospital, Rahim Yar Khan. Study Duration: 1st July 2017 to 31st December 2017. Sample technique: Non probability consecutive sampling. Sample size: A total of 100 study subjects were included in this study.

In the present study, the cases of liver cirrhosis of either sex with age range of 40 to 80 years were selected. The diagnosis of liver cirrhosis was made on the basis of shrunken liver size with or without associated portal vein dilatation and ascites. The child pugh class was assessed by detailed clinical

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examination, USG and liver function tests. Hepatocellular carcinoma was labelled as yes where there was mass lesion on USG in liver with alpha fetoprotein level more than 200ng/ml.The data was processed by using SPSS-version 22. Effect modifiers were stratified and post stratification chi square test was applied with $p \leq 0.05$ was considered as significant.

RESULTS

In this study, 100 cases of liver cirrhosis were enrolled, with mean age 53.79±11.04 years. There were 58 (58%) males and 42 (42%) females. HCC was seen in 8 (8%) out of 100 cases. HCC was significantly high in males where it was seen in 6 (10.34%) of cases with p= 0.03 as in table I. It was also high in cases with age more than 50 years, where it was observed in 5 (10.87%) cases with p= 0.06. In terms of child pugh class it was also significantly high in cases with class C where all the 8 cases were seen with p= 0.001.

Table I: Hepatocellular Carcinoma versus gender, age and child pugh class.(n=100)

Gender	Hepatocellular Carcinoma		P Value
	Yes	No	
Male	6 (10.34%)	52 (89.66%)	0.03
Female	2 (4.76%)	40 (95.24%)	
Age Groups	Hepatocellular Carcinoma		
	Yes	No	
50 year or less	3 (5.55%)	51 (94.45%)	0.06
>50 years	5 (10.87%)	41 (89.13%)	
Child pugh class	Hepatocellular Carcinoma		
	Yes	No	
B	00 (00%)	34 (34%)	0.001
C	08 (12.12%)	66 (87.88%)	

DISCUSSION

Hepatocellular carcinoma is among the leading cancers posing a high burden of morbidity and mortality.[8-10] It is ranked the 5th most common causes of cancer in males globally.[11-13] Liver cirrhosis especially hepatitis C virus infection is strongly associated with its development. Alcoholism is one of the strong predictor to potentiate the course of its development. The chance of its development after overt cirrhosis is 1-4% per year.[8]

In the present study, the HCC was seen in 8% of the cases. This was similar to the studies done in the past.[10-14] According to different studies the incidence of HCC in cases of HCV infection was found to be 3.7-16.7% of the cases.[8,9] The data has also revealed that the incidence is higher in cases of HCV infection as compared to HBV infection and alcoholism. According to a study done by Imberti et al, 200 cases of cirrhosis were followed and HCC was seen in 5.1% of the cases.[9]

In the present study, the HCC was more seen in males as compared to females where it was seen in 6 (10.34%) cases with p= 0.03. This was similar to another study that also found male predominance; and the male to female ration was seen in 7:1. The data from different countries i.e. China and Africa, this ratio was seen as high as 8:1; although they did not confabulate this data to look for any significance.[10-11]

HCC was also common in cases that had age more than 50 years where it was seen in 5 (10.87%) cases with p= 0.06 cases. This finding was also supported by various studies.[7,8] According to a survey the median time for diagnosis of HCC is around 65 years and almost negligible before the age of 40 years.[12] The risk is slightly higher in younger age group in Asian countries as compared to the developed ones which can be explained by the fact that the chances of getting infection at earlier age is common in Asian countries and it also lacks the health care facilities; hence earlier liver damage and ongoing fibrosis can lead to development of HCC at relatively earlier age.[11,14]

HCC was significantly high in cases of child pugh class C where all the 8 (100%) cases were found. This was also seen in the past studies as well;[8,11] although they were not all in one class as was seen in the present study. The other data which was found in previous studies was that, the cases that had severe disease and also for longer duration of action, it was more associated with HCC with p values less than 0.05.[13] According to a study by Tariq M et al from Karachi, the incidence of HCC was 5% with child class B and 6.7% with class C with an insignificant difference.[14]

CONCLUSION

Hepatocellular carcinoma, is not that uncommon and is found significantly high in males and those with child pugh class C.

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