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FREQUENCY OF HEPATOCELLULAR CARCINOMA IN PATIENTS WITH HCV INDUCED LIVER CIRRHOSIS

Mohammad Zahid, Saqib Adnan, Rabeea Sadaf, Mohammad Ishaq Khattak, Noor-Ul-Iman

Department of Medicine, Khyber Teaching Hospital, Peshawar - Pakistan

ABSTRACT

Objectives: To see how often Hepatitis "C" positive patients culminate in Hepatocellular Carcinoma.

Material and Methods: A case series descriptive study was conducted over a period of more than two years from January 2010 to February 2012 in Medical "E" Unit of Khyber Teaching Hospital, Peshawar. This included 282 Hepatitis "C" positive patients with cirrhosis of liver. They were of 18 to 65 years of age. These patients were evaluated for the presence of Hepatocellular Carcinoma by means of ultrasonography, alpha-fetoprotein and computed tomography of abdomen.

Results: Out of all 282 patients, 35 (12.4%) had single/multiple mass lesion/s in their liver parenchyma on ultrasonography. Of these 35 patients, 34(97.14%) were labeled to have Hepatocellular Carcinoma, diagnosis consolidated with the help of Computed Tomography of abdomen and very high levels of Alpha-fetoprotein (AFP). 33 had single mass lesion in liver while 2 had multiple lesions. One (2.86%) out of the total 35 had metastatic liver disease with normal to slightly raised levels of alpha-fetoprotein.

Conclusion: Hepatitis C has become an epidemic in our country and ending with complications of cirrhosis of liver and Hepatocellular Carcinoma. It is time to focus our full attention on prevention of HCV infection in the first instance. Moreover, those patients who have already developed cirrhosis of liver should undergo regular surveillance for an early detection of HCC so that effective treatment could be instituted in time.

Key Words: Hepatocellular carcinoma, HCV infection, Cirrhosis liver.

INTRODUCTION

Hepatocellular carcinoma (HCC)) is one of the most important cancers, accounting for about 6% of all new cancer cases diagnosed worldwide. It is the 3rd most frequent cause of cancer death among men around the world[1]. According to the WHO statistics, in 2006 there are approximately 6, 62,000 deaths per year from HCC[2].

HCC occurs as primary liver cancer in 85% to 90% of cases. It is unique that it often develops within an already established background of chronic liver disease and cirrhosis of liver. The most important cause is HCV infection followed by other causes like hepatitis B virus (HBV) infection, alcoholic liver disease and possibly nonalcoholic fatty liver disease. Other less common causes are haemochromatosis, autoimmune hepatitis and alpha-1 antitrypsin deficiency[3].

The incidence of HCC is growing in Japan, affecting almost 40/100000 population. Mainly male above age group 50 are the primary victims. Here some 80% of HCC are seen due to HCV infection while 16% are caused by HBV infection. This rise in incidence is expected till 2015 because of the already infected cases. However, thereafter a decline is expected to follow due to better strategies towards control of infection with hepatitis B and C[4].

Patients with HCC usually have a poor prognosis with a 5 years survival rate of less then 10%. The reason for this remains late detection of the tumor and lack of effective treatment of patients with advanced disease. It is therefore important to detect this disease early so that it can be effectively treated[5]. Chronic HCV infection is responsible for only 25% of cases of HCC[6].

The relative importance of chronic hepatitis B and chronic hepatitis C in causing HCC varies in different parts of the world. In most of the Asian and African countries, HBV infection is the most important etiological agent. On the other hand, chronic HCV infection is mainly responsible for causing HCC in the developed world Pakistan is one of the few Asian countries where chronic HCV infection is the main etiologic gent for causing HCC[7].

A recent study found that 72.5% of all cases of HCC were due to chronic hepatitis C in Pakistan[8]. Hepatitis C virus causes chronic infection in hundreds of millions of people worldwide[9]. HCV causes progressive liver fibrosis leading to cirrhosis in

Address for Correspondence:
Dr. Mohammad Zahid
Senior Registrar
Medical E Unit,
Khyber Teaching Hospital, Peshawar - Pakistan
Cell: 0301-8919087
E-mail: drzahidk@yahoo.com

approximately 20% of patients. 10-20% of these patients with cirrhosis of liver develop HCC within 5 years[10].

It is important to carry out surveillance for hepatocellular carcinoma in all patients with HCV induced liver cirrhosis. Ultrasound and serum AFP are the recommended modalities for this surveillance. Various studies suggest that patients in whom HCC is detected early as a result of this surveillance have a significant reduction in cancer related as well as overall mortality compared to those patients with symptomatic HCC[11].

MATERIAL AND METHODS

Our study was a case series, descriptive study carried out in Medical E unit of Khyber Teaching Hospital, Peshawar from 1st Jan 2010 to 29th Feb 2012 i.e. over a period of 02 years. All patients with liver cirrhosis between 18 to 65 years of either sex who were anti HCV antibodies positive were included in the study.

Patients with liver cirrhosis due to other causes including cryptogenic cirrhosis were excluded from the study. Patients with known malignancy were also excluded from the study. Patients fulfilling the inclusion criteria admitted in our unit were evaluated by performing LFTs, coagulation profile and hepatitis B and C serology by 3rd generation ELISA.

Ultrasound abdomen was performed in all patients. Patients with mass lesion in the liver on ultrasound were further investigated by CT scan abdomen. Serum Alpha-fetoprotein levels of all these patients were also performed. Data was recorded on a specially designed pro forma. Patients with HCC were declared on the basis of mass lesion on ultrasound abdomen and the diagnosis was further consolidated by findings of CT scan abdomen along with a highly raised serum AFP levels.

RESULT

A total of 282 patients with hepatitis C induced liver cirrhosis were admitted to Medical E Unit, Khyber Teaching Hospital, Peshawar during the study period. Out of 282 patients, 171 were male & 111 were female. The age range was from 18 to 65 years.

Among the 282 patients, 33(11.70%) patients had a single mass lesion on ultrasound abdomen. All these patients had serum alpha-fetoprotein levels of >350ng/ml. CT scan abdomen also confirmed the mass lesion in all these patients. 02 (0.70%) patients were found to have multifocal mass lesions in liver. However alpha-fetoprotein levels were markedly elevated in only one of these two patients. The other patient probably had secondary spread to liver from unknown primary focus. Thus the frequency of HCC among these 282 patients with HCV induced liver cirrhosis was 12%. The results are comparable to other recent studies conducted in this part of world.

DISCUSSION

Chronic HCV infection is a major health problem in Pakistan with about 8-10% of our population chronically infected with this virus[12]. This infection results in oxidative stress, fibrosis and steatosis in liver. All these factors contribute to the development of hepatocellular carcinoma which is one of the most important complications of this infection[13].

It has been observed that even in United States of America, the incidence of HCC among patients with chronic HCV infection has increased over time[14]. Our study was aimed at finding the frequency of hepatocellular carcinoma in patients with HCV induced liver cirrhosis. The result showed that this frequency was 12%. Most of the patients had unifocal hepatoma while only 1 patient (0.3%) was found to have multifocal hepatoma. Thus HCC was found to be relatively common in our patients. Findings of our study correlate well with other studies performed in our province as well as else where in Pakistan.

A study carried out at Peshawar between 1995 and 1998 among patients with liver cirrhosis found the frequency of hepatocellular carcinoma to be 10.98%. Most of these patients of HCC were anti-HCV antibodies positive[15]. Another study accomplished in Sindh province of Pakistan between 2005 and 2007 studied the prevalence of various complications in patients with liver cirrhosis. Majority of these patients (52%) were Anti –HCV antibody positive. This study found that the prevalence of HCC in these patients with liver cirrhosis was 7%[16].

Recently a study was conducted at Hayatabad Medical Complex, Peshawar during 2010 & 2011. This study found frequency of HCC to be 10.5% among patients with liver cirrhosis, majority of whom were Anti- HCV antibodies positive[17]. All the aforementioned studies were conducted on patients with liver cirrhosis whether HCV induced or due to some other cause. However, one recent study included only those patients who had HCV induced liver cirrhosis. This study found the frequency of HCC to be 9.75%[18].

The result of our study clearly shows that with passage of time patients who are already anti-HCV antibodies positive develop chronic liver problems and may present with its grave complication of HCC. The more HCV infection becomes common, the more are the chances of occurrence of its complications.

RECOMMENDATIONS

The only way to avoid the complications of HCV is to prevent it from further spreading. Various means such as newspapers and electronic media should be utilized to educate our population in this regard. The use of disposable syringes, proper sterilization of operation theatre instruments and screening the blood and its products will go a long way in prevention. Ways

to cost effectively screen the population for HCV must be explored to detect and treat HCV infected patients to reduce the incidence of HCV related complications. Free treatment by the government to HCV infected patients will hopefully also decrease the incidence of these complications.

CONCLUSION

It is important to focus our attention to prevent HCV infection in the first instant. Moreover, patients who have already developed cirrhosis of liver should undergo regular surveillance for an early detection of HCC so that effective treatment could be instituted on time.

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