

Profile and Risk Factor of Hepatocellular Carcinoma Patients

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Abstract: Hepatocellular carcinoma (HCC) is the most common primary liver malignant tumor in the world. The incidence of hepatocellular carcinoma varies worldwide and is correlated with the incidence of hepatitis B virus and hepatitis C virus. In addition to viral hepatitis, there are other risk factors such as alcohol consumption that causes alcoholic liver disease and obesity and diabetes associated with non-alcoholic fatty liver disease (NAFLD) / non-alcoholic steatohepatitis (NASH). Most of these risk factors lead to the development of liver cirrhosis. One of the most commonly used stages of hepatocellular carcinoma is Barcelona Clinic Liver Cancer (BCLC) staging system that can also determine which therapy will be given to patients with hepatocellular carcinoma. The aim of this study was to determine the profile and risk factors of hepatocellular carcinoma patients. This cross-sectional study using HCC patient's medical records in Adam Malik General Hospital from January 2016 – June 2017. There were 182 patients with hepatocellular carcinoma with the highest age group 40-60 years (54.4%), dominated by male sex (80.2%), occupation with the highest prevalence is self-employed (27.5%), has no family history (97.8%), risk factors with the highest prevalence is hepatitis B (47.3%), Child-Pugh B (57.1%), multinodular radiology (51.1%), AFP increased, BCLC stage B (40.7%) and treated with symptomatic treatment (78%). The highest risk factor in patients with hepatocellular carcinoma is hepatitis B.

1 INTRODUCTION

Hepatocellular carcinoma (HCC) is a primary malignant liver tumor that originating from hepatocytes (Budihusodo, 2014). HCC is the ninth most common cancer in women and fifth in men. HCC mortality rate is also very high, in second place of cancer-related death after lung cancer (GLOBOCAN 2012).

The incidence of HCC varies worldwide and correlates with regional prevalence of Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) (Budihusodo, 2014). In the endemic areas, HBV is majority obtained by vertical and perinatal transmission more than 90% of these cases changes to chronic HBV carriers. HBV is a well-known cause of HCC because it can become HCC without cirrhosis, although most HBV (70-90%) develop into cirrhosis prior to becoming HCC (Yang et al, 2011). Some cases of HCV has been reported, in

Italy 44-66% turn in to HCC cases and about 80% in Japan. Whereas, in United States, the chronic HCV was also a major risk factor for HCC (El-Serag, 2007).

Other risk factors of viral hepatitis, such as alcohol consumption that associated to alcoholic liver disease and obesity and diabetes associated with non-alcoholic fatty liver disease (NAFLD) / non-alcoholic steatohepatitis (NASH). Most of these risk factors lead to the development of liver cirrhosis present in 80-90% of HCC patients (El-Serag, 2011). Several studies reported that risk of developing HCC through NASH-associated cirrhosis is lower than other liver diseases, such as HCV and HBV (Takuma, 2010).

Although the prevalence of HCC in patients with NASH is low, but the prevalence of obesity-related NASH in the United States is high and it is a leading to indicated a major causes for liver transplantation (Wong, 2014).

2 METHODS

This study was a cross-sectional study design. Data were taken by using secondary data from medical record of hepatocellular carcinoma patients at RSUP Haji Adam Malik Medan period 1st of January 2016 until 30th of June 2017. The sampling method was done by total sampling method. Data taken include age, sex, risk factors, laboratory results, child-pugh classification, radiological results, BCLC stage, tumor marker results and therapy provided.

3 RESULT

This study was obtained 182 patients hepatocellular carcinoma who visited the RSUP Haji Adam Malik Medan during the period 01 January 2016 - 30 June 2017.

Table 1 : Characteristics of HCC patients

Characteristic	n = 182
Sex	
Men	146 (80,2)
Women	36 (19,8)
Age (years)	
< 40	25 (13,7)
40-60	99 (54,4)
> 60	58 (31,9)
Occupation	
Government employees	18 (9,9)
Private employees	19 (10,4)
Entrepreneur	50 (27,5)
Farmers	39 (21,4)
Housewife	17 (9,3)
Retired	17 (9,3)
Others	22 (12,1)
Risk factors	
HBV	86 (47,3)
HCV	10 (5,5)
Cirrhosis	60 (33)
Alcohol	41 (22,5)
Diabetes	16 (8,8)
Obesity	29 (15,9)
Laboratory data	
Hb (g/dL)	10,9±2,7
Leucocyte	10.705,13±4957,31

(cells/mm ³)	275.756,90±1,60
Trombosite (thousand/mm ³)	69,81±76,09
ALT (U/L)	201,65±252,12
ASP (U/L)	277,18±265,64
ALP (U/L)	345,88±305,02
Gamma-GT (U/L)	3,8±6,4
Bilirubin (mg/dL)	2,7±0,65
Albumin (g/dL)	1,2±0,39
INR	
Tumor marker	
AFP (ng/ml)	26.728,84±1,67
CEA (ng/ml)	464,33±1856,02
CA125 (u/ml)	286,26±261,67
CA19-9 (u/ml)	161,09±351,64
Child-Pugh score (%)	
A	47 (25,8)
B	104 (57,1)
C	27 (14,8)
Missing	4 (2,2)
Tumor type (%)	
Soliter	52 (28,6)
Multinoduler	93(51,1)
Diffuse	7 (3,8)
Missing	30 (16,5)
BCLC stage (%)	
0	14 (7,7)
A	30 (16,5)
B	74 (40,7)
C	13 (7,1)
D	25 (13,7)
Missing	26 (14,3)
Treatment (%)	
Hepatic resection	2 (1,1)
TACE	37 (20,3)
Liver transplantation	142 (78)
Symptomatic	1 (0,5)

4 DISCUSSION

Table 1 shows the characteristics of patients in which the largest number of hepatocellular carcinoma patients were men. This is in accordance with previous study that found the most sex in hepatocellular carcinoma patients were male (Karageorgos et al, 2017; Mittal et al, 2015). Sex influences are also associated to sex hormones

namely androgens and estrogens which is main regulated the progression of HBV infection and the incidence of HBV-associated to hepatocellular carcinoma, in which androgens increase the transcription and replication of the HBV gene whereas the estrogen plays a protective role by decreasing the transcription of HBV RNA and the number of inflammatory cytokines (Montella, 2015). In addition, high alcohol consumption in men also increases the hepatocellular carcinoma incidence risk in people that infected by hepatitis B and hepatitis C virus (Budihusodo, 2014).

The most risk factor in hepatocellular carcinoma patients in this study is hepatitis B. Chronic hepatitis B infection was a major risk factor for hepatocellular carcinoma in the world (El-Serag, 2011). About 80% of the world's hepatocellular carcinoma cases are in developing countries such as East Asia and Southeast Asia and Central Africa, which is known to be a high prevalence of viral hepatitis (Budihusodo, 2014).

Chronic hepatitis B can progress to hepatocellular carcinoma without cirrhosis, although most develop into cirrhosis before it becomes hepatocellular carcinoma (Yang et al, 2011). In this study, the second highest risk factor was cirrhosis hepatis. This is associated with high incidence of hepatitis B and other risk factors that can develop into cirrhosis before becoming hepatocellular carcinoma.

The laboratory results of hepatocellular carcinoma patients where the mean Hb decreases, normal leukocytes, normal platelets, ALT increases, ASP increases, ALP increases, Gamma-GT increases, bilirubin increases, normal albumin and normal INR. The most common abnormalities in liver tumors are elevated alkaline phosphatase (ALP) and GT gamma. The concentrations of SGOT / AST and SGPT / ALT enzymes in hepatocellular carcinoma at baseline did not show an increase unless the underlying disease was cirrhosis of the liver. When the tumor gets bigger and greater liver damage can also be found an increase in AST and ALT (Amirudin, 2014).

In the results of tumor marker examination of hepatocellular carcinoma patients found the average AFP increased, the average CEA increased, the average CA125 increased, and the average CA19-9 increased. AFP is a specific tumor marker in diagnosing hepatocellular carcinoma, whereas other tumor markers such as CEA, CA125 and CA19-9 are not specific but may increase with worsening disease (Li et al, 2015).

In Asia, hepatocellular carcinomas usually appear as well-described, solitary or multifocal masses and are associated with secondary cirrhosis due to hepatitis B. In western countries, hepatocellular carcinomas usually appear as diffuse infiltration masses and are associated with alcohol-induced cirrhosis (Sharma, 2009). In this study, the most radiology results in patients with hepatocellular carcinoma multinodular. It is accordance with the previous study that get the most tumor type is multinodular (Su et al, 2017).

The most common of Child-Pugh classification in hepatocellular carcinoma patients was Child-Pugh B. This study is in accordance with the previous study which received the most Child-Pugh classification is Child-Pugh B (Nadhim, 2016). The most BCLC staging in patients with hepatocellular carcinoma is stage B. According to previous study, it showed that the highest stage of BCLC in hepatocellular carcinoma hepatitis B virus etiology is stage B (Nadhim, 2016). While in another study received the highest stage BCLC was stage C (Mittal et al, 2015; Hidayat, 2007). BCLC staging is closely related to the Child-Pugh classification and radiology results in patients, where in this study the most Child-Pugh classifications are Child-Pugh B and multinodular radiology results. That all determine the choice of therapy which in this study the most common treatment to the patients with hepatocellular carcinoma is symptomatic treatment.

5 CONCLUSION

Most of patients were in BCLC staging B, with the highest risk factor in patients with hepatocellular carcinoma is hepatitis B.

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