

THE PREVALENCE AND CHARACTERISTICS OF CHRONIC VIRAL B HEPATITIS IN TRANSYLVANIA

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Abstract: Hepatitis B virus is a worldwide spread virus. In Romania, the prevalence of chronic viral B hepatitis has declined in the last decades because of the newborn vaccination, starting from 1995. Ethanol intake is an independent predictor of death in subjects with HBV infection. Our aim was to study the prevalence and some consequences of chronic viral B infection in Transylvania and the consequences of alcohol consumption among the patients chronically infected with HBV. From a total of 1377 patients who were examined, 1.81% patients were chronically infected with hepatitis B virus. 24% of the patients had a Forns index higher than 6.9, which is predictive for significant fibrosis. 16% of them admitted consuming alcohol occasionally. The alcohol consumption among the patients chronically infected with VHB is pretty high, this fact being also involved in the response to the treatment.

Cuvinte cheie: hepatită cronică virală B, prevalent, consume de alcool

Rezumat: Virusul hepatitic B (VHB) este un virus ubicuitar, omul fiind principalul rezervor de virus. În România, prevalența VHB a scăzut începând cu 1995, o dată cu începerea vaccinării la nou-născut la scară națională, recum și datorită introducerii testelor ELISA la nivelul centrelor de transfuzii. Asocieria consumului de alcool la pacienții infectați cronic cu virusul hepatitic B este un co-factor important al mortalității la acești pacienți. Scopul studiului nostru a fost determinarea prevalenței și si caracteristicile infecției cu virus hepatitic B în Transilvania și a determina prevalența și consecințele consumului de alcool în rândul pacienților infectați cronic cu virusul hepatitic B. Din totalul de 1377 pacienți care au fost examinați în cadrul unui screening, 1.81% prezentau hepatită cronică virală B; 24% dintre pacienții infectați cronic cu VBH au o fibroză hepatică semnificativă (evaluată non-invaziv). 16% dintre aceștia erau și consumatori cronici de etanol. În concluzie, procentul consumatorilor de alcool în rândul pacienților cu hepatită cronică virală B este destul de mare, fapt ce are consecințe privind răspunsul la tratamentul antiviral al acestor pacienți.

INTRODUCTION

Hepatitis B virus is a worldwide spread virus. In Romania, the prevalence of chronic viral B hepatitis has declined in the last decades because of the newborn vaccination, starting from 1995. Alcoholic hepatitis continues to remain an important health problem, together with chronic viral hepatitis. Viral infections favour the development of alcoholic liver diseases; these two factors, alcohol and virus, potent themselves. The cumulus of these two factors increases the risk of hepatocarcinom.(1)

PURPOSE OF THE PAPER

The main objectives of this study is to determine the prevalence and some clinical, biochemical and imagistic characteristics of the patients with chronic B hepatitis in Transylvania, in a first phase and then, to establish the prevalence and some consequences of alcohol consumption among the patients chronically infected with HBV.

MATERIAL AND METHODS

This study belongs to a screening study in which we have considered all the patients who were hospitalized in the medical departments of the County Hospitals from Brasov, Oradea and Sibiu, between 15.10.2006 and 21.12.2006 and who were ultrasonographically examined.

In the studied patients, we have analyzed the

following parameters: gender, age, serum values of transaminases, total and direct bilirubin, serum alkaline phosphatase, glycaemia, triglycerides and the etiology of cytolysis, the grade of liver hyperechogenicity (conventional quoted between 1 and 3), the grade of posterior attenuation of ultrasounds in the liver parenchyma (conventional quoted between 1 and 3), the diameter of portal vein in the hill, the value of the long axis of the spleen, clinical manifestations, waist circumference, presence of the family antecedents, associated diseases (arterial hypertension, diabetes mellitus), sedentary life, alcohol consumption, hyperlipidic or hyperglucidic diet.

We have calculated the prevalence of the chronic infections with hepatitis B virus (HBV), the prevalence of alcohol consumption among the patients chronically infected with HBV.

We have also analyzed the relation with the metabolic syndrome, and the risk factors of the metabolic syndrome which were presented in our patients.

The liver fibrosis was non-invasively assessed with the Forns index of liver fibrosis and the APRI score. The Forns index depends on age, number of platelets, cholesterol level and GGT. A value lower than 4.2 excludes significant fibrosis and a value over 6.9 suggests a significant liver fibrosis. The APRI score was calculated by the formula (AST/platelets number):100.

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CLINICAL ASPECTS

The results were statistically analyzed with the SPSS software (Pearson Chi-Square test, Likelihood test, ANOVA test), „t” Student test and the relative risk (RR).

RESULTS

From a total of 1377 patients who were examined, 25 patients were chronically infected with hepatitis B virus, the prevalence being of 1.81% from the total number of hospitalized patients.

The medium age of the patients with HBV was 48.44±12.63 years. The gender distribution was: 40% women and 60% men. In 68% of them, an increased echogenicity of the liver was found.

As associated diseases, 16% had type 2 diabetes, 24% had arterial hypertension, 20% had hypercholesterolemia, 12% had hypertriglyceridemia and 44% were overweight or obese.

Regarding the clinical manifestations, 8% of the patients had no symptoms of disease, while 12% presented asthenia, 20% had fatigability and 36% presented a slight pain in right hypochondria.

The level of aminotransferases was on average of 88.16 U/l for AST and of 78.68 U/l for ALT.

By using the Forns index, we have non-invasively evaluated the liver fibrosis. 24% of the patients had a Forns index higher than 6.9, which is predictive for significant fibrosis.

32% of the patients chronically infected with hepatitis B virus admitted they have a sedentary life and 16% admitted an occasionally alcohol consumption.

The patients with chronic viral B hepatitis who did not consume alcohol were analysed as compared with those who are also consuming alcohol. In the later case, significantly higher values of the next parameters were found: degree of liver steatosis ($p=0.009$), posterior attenuation of the liver ($p=0.04$), triglycerides level ($p=0.06$), glycaemia level ($p=0.046$), level of GGT ($p=0.042$). Also, the Forns index of liver fibrosis was higher in the patients chronically infected with HBV who were also alcohol consumers, as compared with those with chronic B hepatitis who did not consume alcohol (6.953, as compared with 6.11, $p=0.295$).

DISCUSSIONS

In our study, the chronic infection with HBV was found with a prevalence of 1.81% among the hospitalized patients in the medical departments from three hospitals. The data is in accordance with the data from the literature, where Eastern Europe is considered to be situated in the intermediary segment regarding the endemic infection with HBV (between 2-7% of the population). Some of these patients often associate the components of the metabolic syndrome. 24% of the patients chronically infected with HBV present significant fibrosis.

Our study supports the idea that alcohol use is an independent risk factor for the progression of fibrosis in chronic hepatitis B virus infection, as some clinical studies have indicated.(1,2)

The results of our study are in accordance with the results of Dionysus study, which studied the prevalence of the chronic viral hepatitis and the consequences of alcohol consumption regarding the mortality and morbidity rates in the population of two communities from northern Italy. These results indicated that alcohol consumption in a independent predictive factor of the mortality in the patients with chronic viral hepatitis.(3)

Also, the results of a study published in 2008, in France, sustain that alcohol consumption in the patients chronically infected with HBV virus is an important co-factor of

mortality in these patients.(4) That is why, there is a need for more intense action in order to screen the chronic viral hepatitis and to advise the patients found with this disease to end the alcohol consumption. More intense interventions, within drug treatment services, may be required for those drinkers for whom advice is insufficient.

The mortality risk in the patients with HBV infection increases together with the association with the following factors: co-infection with hepatitis C virus, diabetes mellitus, alcohol consumption, fact which is also supported by the results of a study published in Spain, in 2006.(5)

CONCLUSIONS

In our study, the chronic infection with HBV was found with a prevalence of 1.81% among the hospitalized patients in the medical departments from three hospitals. The data is in accordance with the data from the literature, where Eastern Europe is considered to be situated in the intermediary segment regarding the endemic infection with HBV (between 2-7% of the population). Some of these patients often associate the components of the metabolic syndrome. 24% of the patients chronically infected with HBV present significant fibrosis.

The alcohol consumption among the patients chronically infected with HCV and HBC is pretty high, this fact being also involved in the response to the antiviral treatment. The patients who are infected with HCV or HVB and also consume alcohol have a higher steatosis grade and a higher degree of cytolysis and cholestasis.

The patients with HCV infection consume less alcohol than those with other etiologies of liver diseases. Also, the non-invasive assessment of liver fibrosis in the patients with chronic viral hepatitis who also consume alcohol shows a higher degree of steatosis than those with chronic viral hepatitis who are not alcohol consumers.

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