CHRONIC VIRAL HEPATITIS IN YAKUTIA

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Summary: Republic Sakha (Yakutia) is unfavorable territory for the chronic viral hepatitis and their adverse outcomes, and proved the role of blood-contact viral hepatitis in the development of primary liver cancer.
Keywords: viral hepatitis, genotype, cirrhosis, primary liver cancer.

Introduction

Viral hepatitis (VH) with parenteral transmission mechanism is one of the most urgent and serious problems of modern medical science and practical public health around the world. This is due to the widespread distribution and high incidence of VS in different populations, and the infection of people of working age by various forms of parenteral hepatitis. The total number of patients with chronic hepatitis B (CHB) and HBsAg carrier is about 5 million, the number of patients with chronic hepatitis C (HCV) and hepatitis C virus carriers - at least 2 million people (3, 5, 8, 10, 13, 14 , 18, 19). According to datas of S.J. Nadziyannis (1997), the world's hepatitis D affected more than 10 million people.

Yakutia is a region of high spreading of parenteral viral hepatitis B, and hepatitis C, hepatitis D (HD) (2, 4, 15, 17). The level of chronic viral hepatitis has no tendency to decrease, infection rate in 2011 amounted to 1502.5 per 100 thousand of population and according to the reference center for supervision of viral hepatitis it is highest in the Russian Federation.

This unfavorable epidemiological situation is connected, in particular, with climatic and geographical features of the Far North. Severity of parenteral viral hepatitis, further their chronicity associated with the presence of immunodeficiency states, the frequency of which increases significantly in adverse environmental conditions, in particular, and is characteristic of the Republic of Sakha (Yakutia) (2, 12).

The purpose of this study was to investigate the prevalence of virus hepatitis by the parenteral transmission, their clinical course, and outcomes to improve a set of preventive and

curative measures.

Materials and Methods

We used materials of official statistics of Territorial administration of Russia's Customer Control Dept. of Republic of Sakha (Yakutia) and the data of the Yakutsk Republican Oncology Center (Chief doctor Karataev P.D). Analyzed the incidence of chronic hepatitis B, C and D, as well as their outcomes in the Republic of Sakha (Yakutia) in the period from 1996 to 2011. Official statistics are not taken into account data on the incidence of chronic hepatitis D, and liver cirrhosis, so the retrospective analysis of hospital morbidity in the period from 2000 to 2011 is carried out, according the data of the department of viral hepatitis SBE of RS (Yakutia) «Yakut Clinical Hospital»(Chief doctor, MD N.N. Vasiliev).

At diagnosis takes into account the epidemiological, clinical and biochemical data, specific serological markers of viral hepatitis and molecular biological methods.

Results and discussion

Epidemic situation in Yakutia in chronic viral hepatitis B, C and D is still actual. The incidence of newly diagnosed forms of chronic viral hepatitis B and C in the Republic of Sakha (Yakutia) greatly exceeds that in the Russian Federation, and this trend can be seen for the entire 10-year period, with the greatest difference in 2003-2005. (Fig. 1). In 2011, the Republic of Sakha (Yakutia) reported of 839 cases of chronic hepatitis, the morbidity level was 88.4 per 100 thousand of population.

Fig. 1. The incidence of newly diagnosed chronic viral hepatitis in the Republic of Sakha (Yakutia) and in Russian Federation according to the official registration (at 100 thousand of population)

In the structure of chronic viral hepatitis proportion of chronic hepatitis B (CHB) and chronic hepatitis C (CHC) was 39.1% and 58.9% accordingly. According to official statistics in 2011 registered 328 cases of chronic hepatitis B, the rate of 34.5 per 100 thousand of population, also the first time revealed the 494 patients with chronic hepatitis C, the incidence rate is equal to 52.0 per 100 thousand of population. (Fig. 2.)

Fig. 2. The incidence of chronic viral hepatitis B and C in the RS (Y) according to the official registration (at 100 thousand of population).

During the analyzed period, the highest incidence of chronic hepatitis B in Yakutia was in the period from 2003-2006, with a subsequent decrease to 34.5 in 2011, but in comparison with the

level of morbidity in the Russian Federation the republican index higher in 2.6 times (RF – 13.04 to 100 thousand of population). There is increasing of CHC morbidity, from 15.4 in 2000 to 52.4 in 2011, while the republican data is also higher than the federal 28.3% (RF - 40.2 to 100 thousand of population).

Along with the manifest forms of hepatitis B, there remains latent pathogen circulation, which leads to the formation of the hard-diagnosed infections.

As shown in Fig. 3, starting from 2000, marked a significant reduction of carrier state, which may be explained by the formation in this group of the active form of chronic HBV-infection and / or more in-depth diagnosis of chronic viral hepatitis in the present stage. By 2011, the rate of HBsAg carrier state in the RS (Y) decreased by 8.3 times (32.8 per 100 thousand of population), compared to 2000 (272.6 to 100 thousand of population). However, despite the positive dynamics, in general, their level in the Republic of Sakha (Yakutia) is high: in 2011 identified 315 carriers of hepatitis B virus, which is higher than Russia's to 49.2%.

Fig.3. Number of new cases of HBsAg carriers in the RS (Y) in comparison with the Russian Federation (to 100 thousand of population)

Registration of antibodies carriers to hepatitis C virus (Fig. 4) shows a significant reduction of the carriage on the background of a stable increase in Russia. Indicator of antibodies carrier to hepatitis C virus in the Russian Federation in 2007 exceeded 1.7 times the Republic of Sakha (Yakutia) data, since 2009 the official registration HCV-carrier does not exist: all patients with the presence of HCV as a person registered with the CHC.

Fig. 4. Indicators of antibody carrier to hepatitis C virus in the Republic of Sakha (Yakutia) in comparison with the Russian Federation (to 100 thousand of population)

Analysis of hospital morbidity of liver cirrhosis SBE RS (Yakutia) "Yakutsk Clinical Hospital", showed increase in chronic hepatitis in cirrhotic stage of viral etiology. Of particular concern is the detection of early liver cirrhosis with decompensation and signs of portal hypertension (ascites, anasarca, splenomegaly, esophageal varices) in young adults 18-39 years, leading to extreme disability and death. In the structure of hospital morbidity, chronic viral hepatitis in cirrhosis stage among all chronic hepatitis B was 37.5%, while it is 53% of the cause of cirrhosis is HDV-infection, 40% of patients had chronic hepatitis C and in 7% of patients the liver cirrhosis is developed on the background of chronic mono hepatitis B.

The Republic of Sakha (Yakutia), together with Buryatia, Tyva and the Tyumen region, is one of Russia's regions with the highest rates of the incidence of primary liver cancer (PLC). When comparing the incidence of liver cancer in the population of the Republic of Sakha (Yakutia) and Russia from 2000 to 2010, revealed their excess to 4-5 times in the RS (Y), compared with those of the Russian Federation (Figure 5).

Fig.5. The PLC morbidity of Sakha (Yakutia) population in comparison with the Russian Federation in the period from 2000 to 2010 (to 100 thousand of population)

For a correlational analysis to determine the relationship between the incidence of primary liver cancer and blood-contact viral hepatitis B and C analyzed data carriers of viral hepatitis B and C and the incidence of ГЦК due to medico-geographical zones of the Republic of Sakha (Yakutia).

The results of correlation analysis revealed a significant relationship between the incidence of liver cancer and carriage of HBsAg ($r = 0.64$), antibody to hepatitis C virus ($r = 0.47$) among the population of RS(Y). A medical-geographical zones of Yakutia have identified a direct middle connection in the west ($r = 0.65$), in the center ($r = 0.58$) and weak in polar Yakutia ($r = 0.36$, $p < 0.05$), in which recorded a high infection rate by virus hepatitis B. The frequency of primary liver cancer incidence depends on the level of infection in the population of viral hepatitis B, C and D.

Conclusion

The study of long-term morbidity of hepatitis B, C and D in the Republic of Sakha (Yakutia) has allowed to specify the frequency of different clinical forms of the disease (chronic hepatitis, virus carriage, cirrhosis and liver cancer). Despite the decreasing of the incidence of acute forms of viral hepatitis B and C, a high level of registration of chronic viral hepatitis B, C and D is persists in population, indicating the wide circulation of these pathogens in Yakutia.

The primary liver cancer morbidity in the Republic of Sakha (Yakutia) is 4-5 times higher than the data of Russia.

Considering the high prevalence of viral hepatitis, rapid chronization with the outcome of cirrhosis and liver cancer, leading to early disability and death of a young working population, greater economic losses for the treatment of patients, there is a need to improve medical care of patients with chronic viral liver disease.

It is widely implemented in practical public health of standard computer programs to create register "Chronic viral hepatitis in the Republic of Sakha (Yakutia)" to correct assessment of morbidity scope, molecular genetic diagnosis and non-invasive methods for the determination of

liver fibrosis, chronic hepatitis with modern antiviral drugs to the eradication of the pathogen, as measures to prevent the development of cirrhosis and primary liver cancer.

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