

## EPIDEMIOLOGICAL CHARACTERISTICS OF PATIENTS WITH VIRAL HEPATITIS B

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**Abstract.** *The article Epidemiological characteristics of patients with viral hepatitis B.*

*Patients with viral hepatitis B had different methods of infection with viral hepatitis B: 70.8% of people over 50 years of age had a history of multiple injections in a hospital setting. For age groups 20-29 years, the most significant risk factor for infection with viral hepatitis B was the use of intravenous narcotic drugs (33.3% and 29.4%, respectively). In all age groups of the examined patients, there was a significant proportion of unidentified pathogen transmission factors and ranged from 9.4% to 35.0%.*

*It was found that the monthly distribution of patients with HBV was characterized by minor fluctuations in the number, without a clearly defined seasonal rise and fall. There was only an increase in the number of patients with viral hepatitis B in the winter months.*

**Keywords:** *viral hepatitis B, COVID-19 pandemic, liver cirrhosis, blood transfusion.*

Parenteral viral hepatitis is one of the main causes of liver damage in young people, deaths and socio-economic losses worldwide. The continued high epidemiological and socio-economic significance of viral hepatitis in the Republic of Uzbekistan is determined by the annual registration of high levels of newly diagnosed chronic forms of viral hepatitis disease. According to WHO, 57% of cases of liver cirrhosis and 78% of cases of primary liver cancer are caused by infection with hepatitis B or C viruses. Hepatitis B (HB) is a potentially life-threatening viral infection of the liver, thereby determining the status of a global health problem. The burden of hepatitis B infection is highest in the WHO Western Pacific Region and the WHO African Region, where 116 million people are chronically infected. and 81 million people, respectively. In the WHO Eastern Mediterranean region, 60 million people are infected, in the South-East Asia region - 18 million, in the European region - 14 million, in the American region - 5 million. In the domestic literature there are fundamental works in the field of epidemiology and infectious liver diseases, paying significant attention to attention to various aspects of the development of the epidemiological process of parenteral viral hepatitis. Most of the work has been devoted to the problems of viral hepatitis B (HBV) and C [1–3]. Among the many diseases manifested by damage to the liver structures, hepatitis B occupies one of the leading places in terms of the complexity of pathogenesis, diversity and severity of clinical manifestations. Due to the fact that the hepatitis B virus affects not only liver cells, but also other tissues, clinically extrahepatic manifestations of hepatitis can develop. The relevance of the problem of parenteral viral hepatitis is determined by the annual registration of high incidence rates of acute and chronic forms of this infection [1, 4–6].

The UN's 2030 Sustainable Development Agenda includes “fighting hepatitis” as one of its goals. [3]. The COVID-19 pandemic has caused some delays in achieving viral hepatitis elimination goals, requiring optimized approaches to remove barriers to patient access to screening, treatment and prevention. [4]. A special place is occupied by hepatitis with a blood-contact mechanism of transmission of pathogens, which include hepatitis B, C and D. Among

them, viral hepatitis B (HBV) remains a serious health problem in Uzbekistan. The importance of this problem is due to the widespread spread of HBV in the republic, the severity of the disease, the persistence of significant mortality rates, the development of chronic hepatitis and cirrhosis of the liver. Among the many diseases manifested by damage to the liver structures, hepatitis B occupies one of the leading places in terms of the complexity of pathogenesis, diversity and severity of clinical manifestations. Due to the fact that the hepatitis B virus affects not only liver cells, but also other tissues, clinically extrahepatic manifestations of hepatitis can develop.

**Actuality** The problem of parenteral viral hepatitis is determined by the annual registration of high incidence rates of acute and chronic forms of this infection.

Parenteral viral hepatitis is one of the main causes of liver damage in young people, deaths and socio-economic losses worldwide. According to WHO, 57% of cases of liver cirrhosis and 78% of cases of primary liver cancer are caused by infection with hepatitis B or C viruses. With viral hepatitis of combined etiology, the severity and prognosis of the disease worsen significantly.

The prevalence of HBV varies significantly around the world: on the African continent and in East Asian countries it ranges from 5 to 10% of the adult population, versus 1% of the population in Western Europe and North America. The dispersion of indicators is explained by differences in socio-economic levels among the population of these countries.

HBV is characterized by many artificial and natural routes of transmission of the pathogen, which determines its wide prevalence. The main route of transmission of hepatitis B remains blood transfusion, i.e. when the virus enters the blood directly. Currently, a noticeable increase in the proportion of sexual transmission of hepatitis B is being detected (1).

The epidemic process of viral hepatitis B can be divided into artificial, developing as a result of transmission of the pathogen during medical and non-medical parenteral interventions, and natural, developing due to evolutionary mechanisms of transmission of the pathogen (3).

In this regard, the task of further studying epidemiological patterns and improving measures to prevent hepatitis B is urgent.

**Materials and methods:** We analyzed the long-term dynamics of the incidence of viral hepatitis B for 2012-2016. according to the Republican Center for State Sanitary and Epidemiological Surveillance. During this period, patients with viral hepatitis admitted to the infectious diseases' clinical hospital at the Research Institute of Epidemiology, Microbiology and Infectious Diseases under the Ministry of Healthcare RUz were examined. A total of 195 patients diagnosed with hepatitis B virus (HBV) were examined.

**Results and discussion:** Monitoring the dynamics of the incidence of viral hepatitis B among the population of the republic showed significant fluctuations in its level. During the study period (2012-2016), 234 patients with viral hepatitis B were registered in the republic. Patterns of long-term incidence of hepatitis B were studied based on an analysis of the trend in the dynamics of registration of patients who had no history of parenteral interventions during the period of suspected infection.

To study the epidemiological characteristics of patients with viral hepatitis B, we studied the clinical manifestations of the disease and the dynamics of biochemical indicators of liver function in 195 patients with viral hepatitis. Acute viral hepatitis was diagnosed in (83.3%) patients, and chronic viral hepatitis in (16.6%) patients. A detailed epidemiological survey was carried out among 175 patients with acute viral hepatitis B, from whom a detailed epidemiological history was collected.

The group of patients we analyzed consisted of 88 men (50.2%) and 86 (49.8%). All patients suffered from acute viral hepatitis B for the first time. By age, patients with acute viral hepatitis B were distributed as follows: persons 15-19 years old – (2.8%); 20-29 years old – (21.7%); 30-39 years old – (9.9%); 40-49 years old – (6.3%); and 50 years and older – (7.6%).

Thus, the absolute majority of patients were under the age of 30 years (75.6%), and among all age groups of the population, the most affected group was the age group of 20-29 years - 21.7%.

As the results of the analysis showed, in the socio-professional structure of patients, the largest share - 15.9% - was accounted for by housewives. The share of workers, unemployed persons, schoolchildren, and office workers was approximately the same - 7.0%, 6.7%, 8.4% and 6.7%, respectively. Retired patients and students were less common - 3.5% and 2.6%, respectively. Medical workers, being a high-risk group for infection, accounted for 5.1% of all cases of acute viral hepatitis B. To identify the driving forces of the epidemic process in viral hepatitis B, an attempt was made to establish the most likely routes of transmission of infection. In 76.9% of patients, the probable cause of infection was established; in 23.1% of people, the route of transmission of the infection could not be identified. It was found that 24.3% of patients belonged to the group of people who received numerous injections in hospital treatment, and only 3.5% had indications for single parenteral interventions and procedures in medical institutions. In 24.0% of people, infection occurred through contact with close relatives suffering from viral hepatitis B. Even less often, infection occurred during surgical interventions (4.7%), through contact with a husband or wife who had recovered from viral hepatitis B (4.5%), with blood transfusion - 3.5%. Among the cases, 5.1% were medical workers, and 8.0% of patients belonged to the group of people who used drugs intravenously.

**Conclusion.** Thus, if we sum up patients with viral hepatitis B who do not have any parenteral manipulations 6 months before the onset of the disease, then in 50.9% of people it can be stated that they were infected with viral hepatitis B through natural transmission of the pathogen.

In different age groups, patients had different methods of infection with viral hepatitis B: 70.8% of people over 50 years of age had a history of multiple injections in a hospital setting. For age groups 20-29 years, the most significant risk factor for infection with viral hepatitis B was the use of intravenous narcotic drugs (33.3% and 29.4%, respectively). In all age groups of the examined patients, there was a significant proportion of unidentified pathogen transmission factors and ranged from 9.4% to 35.0%.

It was found that the monthly distribution of patients with HBV was characterized by minor fluctuations in the number, without a clearly defined seasonal rise and fall. There was only an increase in the number of patients with viral hepatitis B in the winter months.

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