Viral hepatitis today

Virusni hepatitis danas

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Although hepatitis, perhaps having jaundice as clinical presentation, was recognized over 2000 years ago, back to several centuries B.C., the knowledge made over the past few decades, with the development of molecular biology, is fundamental for the proper classification of viral hepatitis. Diagnostic assays, including viral molecular assays, are the fundament in the diagnosis of virus hepatitis infection and the base in monitoring therapeutic response.

Viral hepatitis is one of the most challenging topics in medicine and a medical problem of enormous magnitude and the consequence of chronic liver diseases have significant economic implications. They are signed by the alphabet letters A, B, C, D, and E. The most prominent problem is the consonant signed hepatitis, because of frequent chronicity and liver cirrhosis and hepatocellular carcinoma as a consequence.

According to the World Hepatitis Alliance, about 500 million people are currently infected with chronic hepatitis B or C and 1 in 3 people has been exposed to one or both viruses. With 500 million people living with hepatitis B and C worldwide, 1.4 million die due to these infections every year and many more become newly infected.

About a third of the world population has been infected with hepatitis B virus at one point in their lives, including 240 million to 350 million who have chronic infections. The prevalence of HBV infection is especially high in Southeast Asia and Sub-Saharan Africa where more than 8% of population are chronic carriers. While perinatal transmission or transmission during early childhood are the reason for the very high rate of chronic infection in Asia and Africa sexual and parenteral exposure are the most important in transmission in developed countries. Among chronically infected patients approximately 15–40% develop cirrhosis, liver failure and hepatocellular carcinoma. About 1 million people die of hepatitis B each year. More than 300,000 of these are due to liver cancer. Hepatitis B virus is responsible for at least 75% of hepatocellular carcinoma. Hepatitis B currently represents 5–10% of liver transplantation.

There are no exact data in Serbia but it is estimated that more than 1.5–2% of population are the carriers of hepatitis B virus.

Because the therapy for chronic hepatitis B is very expensive and not available in many countries, prevention is a very important issue. The availability of safe and effective vaccines allowed wide immunisation programs which resulted in the significant reduction of the burden of diseases caused by hepatitis B virus with clear benefits in terms of prevention of liver cirrhosis and hepatocellular carcinoma.

Antiviral agents active against HBV are available, and have been shown to suppress HBV replication, prevent progression to cirrhosis, and reduce the risk of HCC and liver-related deaths. There are two different treatment regimes for chronic hepatitis B. The first is pegylated interferon based therapy which is limited in duration and could achieve sustained inhibition of HBV replication. The second, nucleotide/nucleozide analogs therapy, fails to eradicate the virus in most of the treated, necessitating a potentially lifelong treatment. In Serbia pegylated interferon and nucleoside analogs lamivudine and tenofovir are available and used in the therapy of chronic hepatitis B. With these medications, the treatment of chronic hepatitis B in Serbia is satisfying because all categories of patients are covered.

About 150 millions people in the world have chronic hepatitis C. The prevalence of HCV infection in the general population varies greatly in different parts of the world and is estimated to be between 0.1 and 5%. The highest prevalence is in Egypt, where 20–25% of people are infected with hepatitis C. The prevalence of HCV infection in Serbia is approximately 1%. It means that in Serbia there are about 70,000 chronic carriers of hepatitis C virus.

Infection with hepatitis C virus is one of the main causes of chronic liver disease, cirrhosis and hepatocellular carcinoma. Acute infection with hepatitis C virus in most cases is asymptomatic or mild and progress to chronic infection in about 80% of all cases. The natural history of chronic hepatitis

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C depends on many factors. Around 20–40% of patients with chronic hepatitis C will progress to end-stage liver diseases and about half of them will die due to liver-related causes, so 350,000 to 500,000 people die each year from hepatitis C-related liver diseases.

There is currently no vaccine for hepatitis C, however research in this area is ongoing, so nonspecific measures are important in prevention from HCV infection.

The only solution for HCV infected patients is treatment which could help most people and stop or slow the disease progression. The treatment of hepatitis C is progressing especially in a few last years. Now there are three stages of hepatitis C therapy. The first is standard and includes peglated interferon and ribavirin. With the standard therapy about 50% of patients could be cured. In 2011, the first selective protease inhibitors boceprevir and telaprevir were approved and, when added to the standard therapy, improved cure rate up to 75%. In 2014 and 2015 many direct acting antiviral agents were approved (simeprevir, sofosbuvir, 3D, ledipasvir, daclastavir). These agents have a significant antiviral effect and the cure rate of hepatitis C in developed countries has been raised to near 100%. The problem is that these medications are very expensive and not available in most countries. The treatment of chronic hepatitis C in Serbia is very problematic. Only the standard therapy is available and about half of patients who do not respond have no other treatment option. Many of them are in the terminal stage of liver disease.

The World Hepatitis Day, observed on July 28 every year, aims to raise global awareness of hepatitis and many hepatitis groups, patients and advocates worldwide taking part in the events on that day to mark the occasion.