

ANALYSIS OF MODERN HEPATITIS C CONTROL EFFECTS

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ABSTRACT: Viral hepatitis C (hep C, HCV) most commonly occurs in the age group of 30 to 49. Initially, the dominant group consisted of middle-aged patients infected through blood transfusion. Recently, an increase in HCV has been observed among patients of younger age.

Today, the main risk group consists of intravenous drug users (IVDUs) with a prevalence of 80%, and the infection normally occurs very soon after starting to take intravenous drugs. Hepatitis C viral infection is also associated with cocaine/heroin consumption, and the infection occurs as a result of the use of common blood-contaminated equipment.

In the presented research, the largest number of patients is between the ages of 30 and 40. In 36 patients, a stable virological response was achieved, i.e. 90%, while most of these patients were previously treated with some other treatment modalities.

Since the therapeutic possibilities are limited and there is no vaccine, prevention plays a key role in the eradication of HCV infection. Eradication and health education of the population are needed, with the aim of acquiring knowledge about possible ways of infection transmission, and thus the possibilities of protection against infection.

Keywords: Hepatitis C, prevalence, viruses, education.

INTRODUCTION

Chronic hepatitis C is defined as chronic liver inflammation (lasting more than six months) which is caused by the hepatitis C virus (HCV). Until 1989, when this virus was discovered, it was called non-A non-B. This infection is a significant global health problem with a wide range of health, social and economic consequences. (Vukobrat-Bijedić, 2008).

Acute hepatitis C has an asymptomatic course in most patients, so it is rarely recognised and occurs mostly in anicteric form. Chronic hepatitis is in many cases also asymptomatic, or is manifested only by chronic fatigue. Hepatitis C viral infection also affects the quality of life because there is weakness, muscle pain, pain below the right costal margin, which result in reduced physical, emotional and social functioning (Verhaz, 2012).

HCV infection has characteristics of a silent epidemic in the world today. According to the latest estimates of the World Health Organisation, the global prevalence of HCV based on HCV antibodies is 1.6% (1.3% - 2.1%), which corresponds to 115 million (range: 92-149 million) patients. Of that number, about 350,000-500,000 people die every year from HCV-related liver disease and its complications. Hepatitis C virus is the cause of about 40% of all chronic liver diseases in the United States, and HCV-related cirrhosis is the most common indication for liver transplantation among the adult population (WHO, 2021).

To address the issue of people with hepatitis, the WHO accepted the initiative of the World Hepatitis Alliance and confirmed 28 July, as a date when by numerous activities around the world it is pointed to the importance of prevention, care and finding new drugs to cure and eradicate diseases caused by this virus. The introduction of mandatory blood testing for hepatitis C viral antibodies (anti-HCV) has reduced the number of post-transfusion viral infections and ranges within risk limits of up to 1: 200,000. However, the number of patients has not decreased, as other modes of transmission such as intravenous drugs have

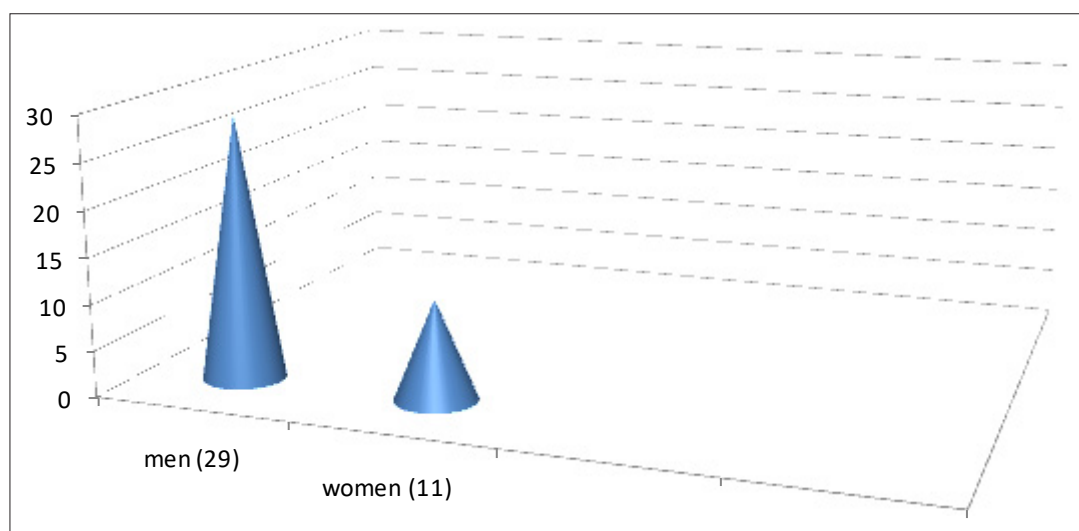
become important. Although little has been achieved in the primary prevention of hepatitis C through the vaccine, great progress has been made in the treatment of HCV patients with over 90% cured according to the latest treatment protocols.

MATERIALS AND METHODS

- Forty patients with chronic hepatitis C treated with interferon free therapy were monitored. In all the diseased the diagnosis was made on the basis of clinical, laboratory, radiological and pathohistological findings.
- The study included patients in hospital treatment at the Clinic for Infectious Diseases in the period from 1 January to 31 December 2019.
- A retrospective-descriptive-epidemiological method was used in the paper. The obtained data were processed in absolute and relative numbers and presented graphically.

RESULTS

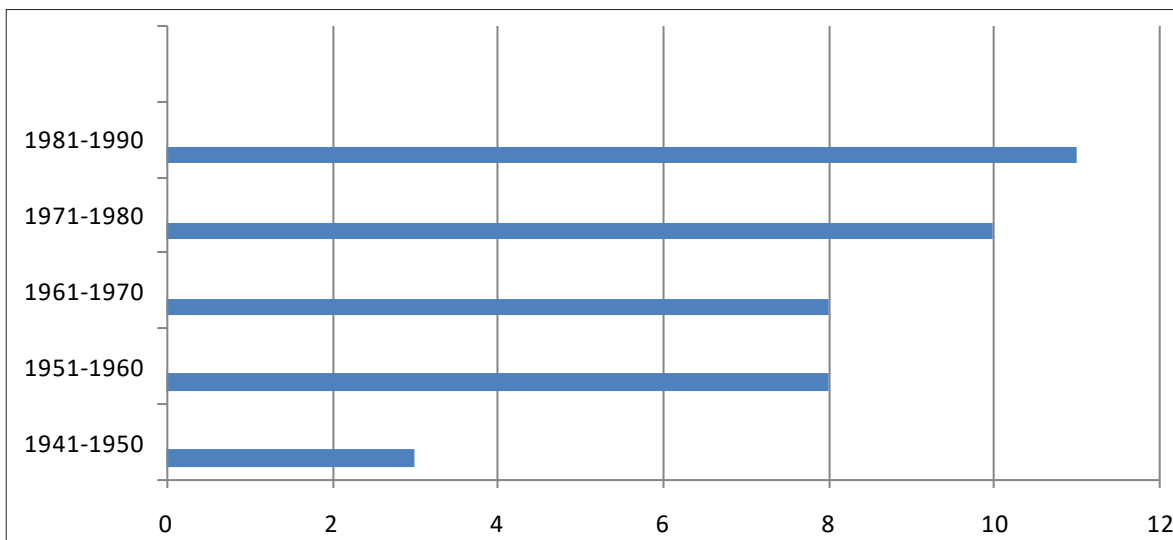
Graph 1. Graphic representation of treated patients by sex.



From Graph 1 we see that in the observed period, the number of men significantly dominate over that of females.

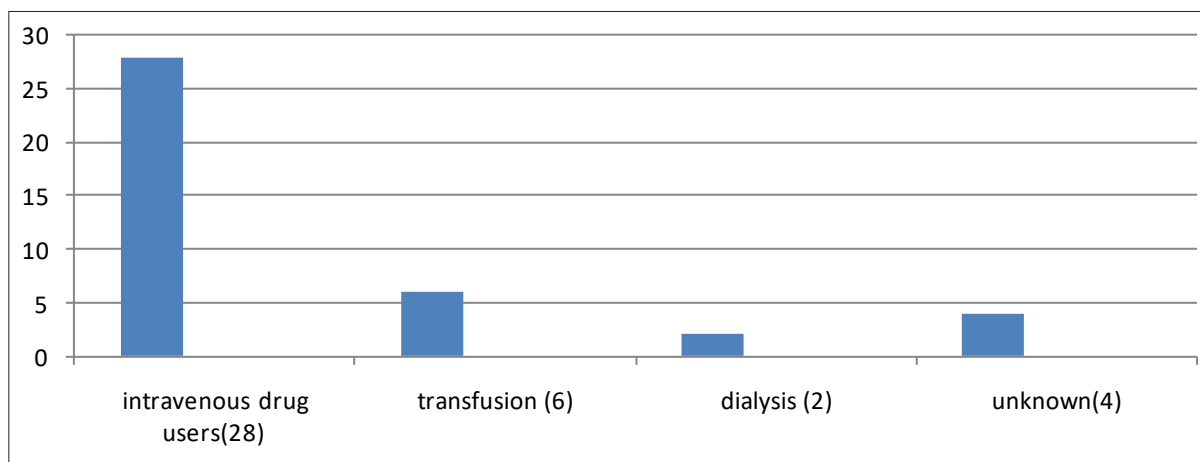
A total of 29 or 72.5% of men were treated in the observed time period, while only 11 or 27.5% were women.

Graph 2. Graphic representation of the prevalence of chronic hepatitis C (CHC) patients by age.



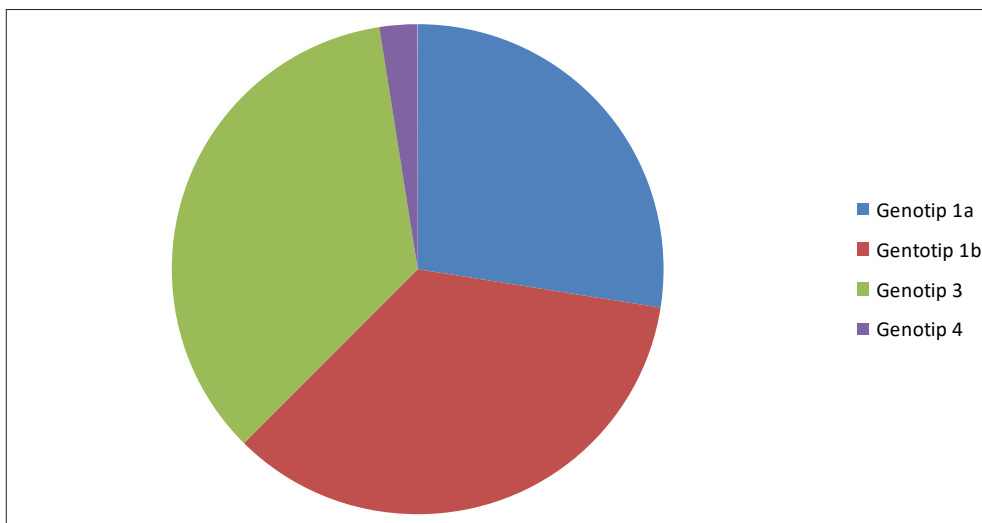
In the graph shown, we see that in the observed period, the largest number of patients was born between 1981 and 1990. Eleven patients were ages born between 1981 and 1990 or 27.5%, while the number of patients born between 1971 and 1980 was 10 or 25%; then those born from 1961 to 1970 and 1951 to 1960 were 8 patients or 20%, while only 3 patients or 7.5% were from the age group born from 1940 to 1950.

Graph 3. The graph shows the number of the diseased in relation to the mode of transmission



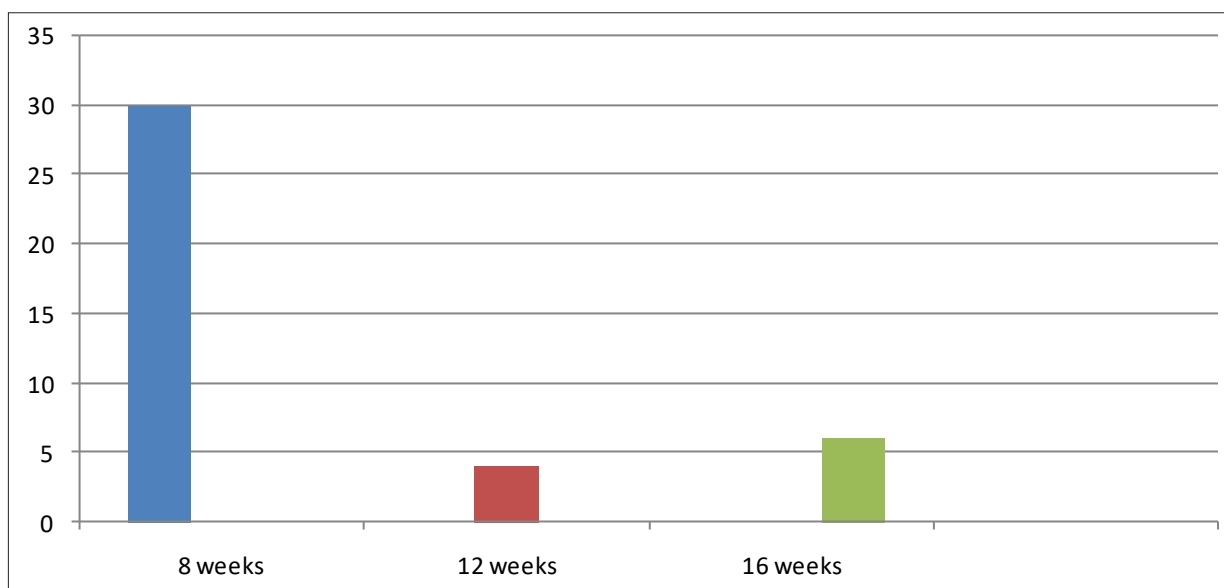
The graph shows that the largest number of patients was from the population of intravenous drug users - 28 or 70%, 6 patients or 15% became infected during blood transfusion, 2 patients or 5% by dialysis, while 4 patients or 10% have an unknown way of transmission.

Graph 4. Graphic display of genotype representation



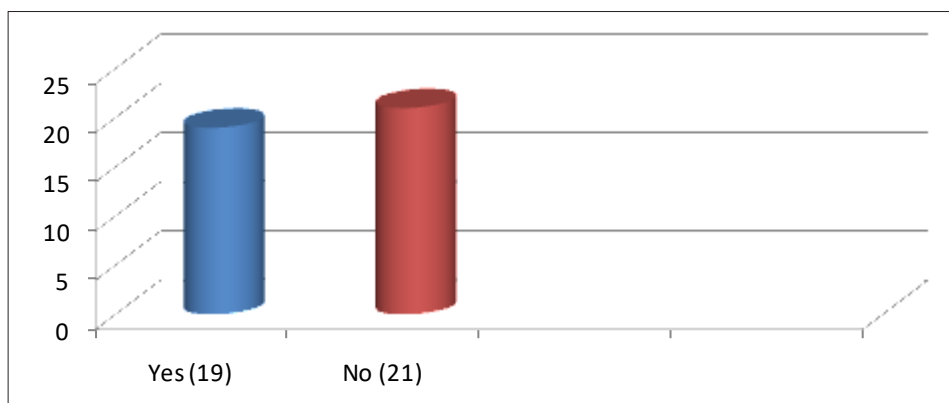
In the graph shown, we see that there were the same numbers of patients with genotype 1 b and 3 or 14 patients (35%), with genotype 1 a 11 patients or 27.5%, and genotype 4 - 1 patient or 2.5%.

Graph 5. Graphic representation of the therapy duration



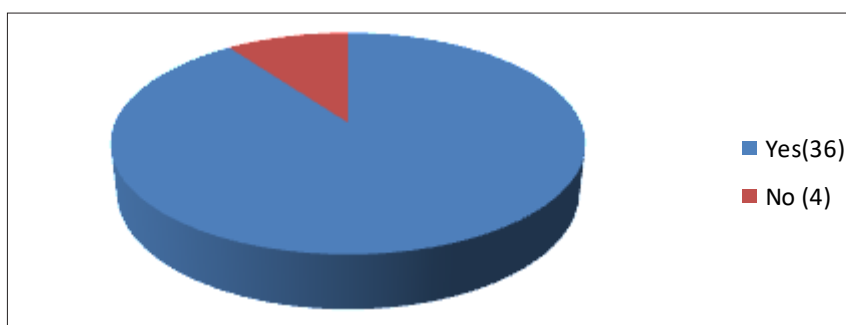
The graph shows that the largest number of patients was treated for 8 weeks - 30 patients or 75%, 6 patients or 15% for 16 weeks, while 4 patients or 10% were treated for 12 weeks.

Graph 6. Graphic presentation of previously treated patients with some of the treatment modalities



In the graph shown, we see that 19 patients or 47.5% had been previously treated with some form of therapy, while 21 or 52.5% had not been treated.

Graph 7. Graphic presentation of patients who achieved a stable virological response after therapy



In the graph shown, we see that 36 patients or 90% had a stable virological response, while 4 or 10% did not have a stable virological response.

DISCUSSION

Infection by hepatitis C virus is widespread in the world. It is estimated that about 170 million people in the world (1-5% of the population in different countries) are chronically infected with viral hepatitis C, because as many as 85-90% of acute infections with this virus become chronic, 25-35% develop liver cirrhosis, and 1% - 5% also develop hepatocellular carcinoma.

The prevalence of HCV infection is 0.04% to 14.5% depending on the geographical area. The lowest prevalence was found in Western European countries, and Canada and Australia as well. Central Europe and the United States have a slightly higher propagation (Delić, 2012).

Mediterranean countries have the highest prevalence of HCV infection in Europe, ranging from 0.7% in Italy to 0.9% in Spain. In South America the prevalence is from 0.9% in Argentina to 1.75% in Brazil. In Asia the prevalence is 1.5%, in Japan up to 2.5%. The highest prevalence is in the countries of North and Central Africa, especially Egypt, where the prevalence is from 13% to 20% (Krkić-Dautović Sajma, 2011).

According to the official data of the Institute of Public Health of the Republic of Srpska, in 2014, 47 patients with the hepatitis C virus were registered, with an incidence rate of 3.4/100,000, and one death was registered. In the last five years, the incidence rate has been fairly uniform, and ranged from 2.7 to 3.8 per 100,000 inhabitants.

The disease most often occurs in the age group of 30 to 49. Initially, the dominant group consisted of middle-aged patients infected by blood transfusion. Recently, there has been an increase in CHC at a younger age, and it is associated with an increase in intravenous drug addiction (Kostić, 2005).

Today, the main risk group is intravenous drug users (IVDUs) with a prevalence of 80%, and the infection usually occurs very soon after the start of intravenous drug use.

Our paper confirms the global trend, where out of 40 patients, 28 were intravenous drug users.

CONCLUSION

About 170 million people worldwide are infected with the hepatitis C virus. In the past, the dominant group consisted of patients who became infected through blood transfusions, while today the main risk group consists of intravenous drug users, as is the case in this paper where out of 40 patients, 28 were intravenous drug users. Possible, but rare modes of transmission are home contact, sexual contact, and perinatal transmission.

Acute HCV infection most commonly occurs as an asymptomatic disease and about 80% of patients develop a chronic infection that is mostly discovered by chance. Significant predisposing factors for the development of progressive liver disease are old age, male gender and excessive alcohol consumption.

One of the most common genotypes is genotype 3, which is associated with intravenous drug use, which has been proven in this paper as the most common route of transmission. The largest number of patients are males, i.e. 29 people or 72.5%.

A stable virological response was achieved in 36 patients, i.e. 90%, while most of these patients had been previously treated with some other treatment modalities.

Since the therapeutic possibilities are limited, and there is no vaccine, prevention plays a key role in the eradication of HCV infection. Eradication and health education of the population is needed, with the aim of acquiring knowledge about possible ways of transmitting the infection, and thus the possibilities of protection against infection.

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Received: May 20, 2022

Accepted: June 27, 2022

