

JOURNAL

of Health Inequalities

Chronic hepatitis C – a serious public health problem. Experience from eastern Slovakia

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Introduction: Chronic viral hepatitis B and C (CVH-B/CVH-C) are serious medical, public health, social and economic problems globally. In Slovakia chronic liver diseases are the fifth most common cause of death in overall, and third in people of productive age. The European Association for the Study of the Liver ranks Slovakia as the country with the fourth-highest liver diseases mortality, after Hungary, Romania and Slovenia.

Material and methods: Screening was conducted for the presence of antibodies to the hepatitis C virus (anti-HCV) in all patients who were sent to our outpatient department (Internal Clinic for Liver Disease Diagnosis and Treatment in Bardejov Spa, Remedium s.r.o.) for the purpose of differential diagnosis of liver diseases between 2010 and 2017. During that period, 3,518 new patients were sent to this clinic. In each patient an ultrasound examination of the abdominal organs and a complete differential diagnosis of liver diseases were performed. When positive antibodies to hepatitis C virus were detected, HCV-RNA was supplemented with the determination of the presence of ribonucleic acid of the hepatitis C virus and the genotype of the hepatitis C virus. A liver investigation was also conducted using transient elastography.

Results: Anti-HCV antibodies were found in 53 patients (1.5%). HCV-RNA was detected in 43 patients (1.2%). Of these, 42 (97.7%) were examined using Fibroscan. Heavier damage to the liver (F2-F4) was present in 27 of the 43 patients (62.7%). Before coming to our outpatient clinic 19 of these 27 (70.3%) had never been treated for CVH-C.

Conclusions: Chronic viral hepatitis C is currently the only chronic viral infection that can be cured. Therefore, a systematic search for patients with a slight change in liver function tests is warranted. Close interdisciplinary cooperation between general practitioners and specialists is necessary in identifying patients with CVH-C.

KEY WORDS: chronic viral hepatitis C (CVH-C), liver fibrosis, liver cirrhosis, hepatocellular carcinoma, transient elastography.

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INTRODUCTION

Chronic viral hepatitis B and C (CVH-B/CVH-C) are serious medical, public health, social and economic problems globally. It is estimated that 500 million people worldwide are infected with the hepatitis B or C virus,

approximately one person in every fourteen. More than 1,5 million people die from the CVH-B/CVH-C every year [1, 2].

Hepatic diseases are the sixth most common cause of death in the European Union and in Central and Eastern

Europe in particular. In Europe up to 29 million people suffer from a chronic liver disease, affecting mostly working-age people [3]. The danger of chronic liver disease lies in its possible progression into cirrhosis, which kills 170,000 people per year in Europe. The most serious complications of liver cirrhosis include hepatocellular carcinoma (HCC), because of which 47,000 people die in the EU every year. It is the fifth most common tumour in Europe.

The most common liver diseases in Slovakia include: alcoholic liver disease with its various stages (from alcoholic hepatitis to liver cirrhosis), viral hepatic disease, e.g. CVH-B, CVH-C and non-alcoholic fatty liver disease (NAFLD). The most serious form, non-alcoholic steatohepatitis (NASH), caused by unhealthy dietary habits, has reached epidemic proportions in recent years [4, 5].

In Slovakia chronic liver diseases are the fifth most common cause of death in overall, and third in people of productive age, right after cardiovascular and oncological diseases. In 2014, chronic liver disease caused 4% of male deaths and 2% of female deaths. The European Association for the Study of the Liver ranks Slovakia as the country with the fourth-highest liver diseases mortality, after Hungary, Romania and Slovenia [6].

In common practice, we often observe patients with at least two liver diseases at the same time. This may cause complications in diagnosis and treatment. Because of the risk of liver cirrhosis and HCC in chronic hepatitis B and C, active screening is required. In this paper, the authors briefly present the results of the chronic hepatitis C screening performed in the Bardejov district. The research screened for HCV antibody (anti-HCV) in all patients sent to our outpatient clinic for differential diagnosis of liver disease in 2010-2017. In cases where chronic hepatitis C was diagnosed, we then conducted a transient elastography examination and forwarded the patient to a center for the CVH treatment.

MATERIAL AND METHODS

During 2010-2017, a total of 3,518 new patients presented at the Internal Clinic for Liver Disease Diagnosis and Treatment in Bardejov Spa. Patients were referred there due to higher values of liver function tests: AST, ALT, GMT, ALP. In each patient, we performed an ultrasonographic examination of the abdominal cavity, a complete sampling for differential diagnosis of liver disease (alcoholic liver disease, non-alcoholic liver disease, viral hepatitis B and C, Wilson's disease, haemochromatosis, autoimmune diseases).

When anti-HCV antibody results were positive, we added a superstructure method (HCV-RNA and virus genotype in a specialized laboratory) and we performed a liver examination with transient elastography (FibroScan). The latter is a non-invasive, painless method of measuring the stiffness of liver tissue that evaluates the speed of shock waves as they propagate through the liver. It is used to assess the degree of liver fibrosis (according to

the Metavir classification) for chronic hepatitis B and C, chronic cholestatic disease, alcoholic liver disease, non-alcoholic fatty liver disease. FibroScan detects cirrhosis with a high degree of accuracy and was adopted and standardized at the annual European Congress of Hepatology in Copenhagen in 2009 and has been recommended by the EASL (European Association for the Study of the Liver) as a standard and safe method to determine the degree of fibrosis in selected liver diseases [7].

RESULTS

Of the 3,518 patients examined, 53 were anti-HCV positive, a prevalence of 1.5%. We carried out an additional HCV-RNA examination and, in cases where the virus was detected, also assessed genotype. HCV-RNA was found in 1.2% of patients (25 males/18 females). A genotype 1 was detected in 44 patients. One female patient had genotype 3. We conducted a transient elastography (FibroScan) examination in 44 of 45 patients. Fibrosis grade F0-F1 was found in 13 patients, grade F1-F2 in 3 patients, F2 in 3 patients, F2-F3 in 1 patient, F3 in 3 and F4 (cirrhosis of the liver) in 20 patients. Of the 20 patients with liver cirrhosis, 17 had never been treated for chronic hepatitis C (CHC). Four patients with liver cirrhosis did not survive long enough to undergo the CHC treatment: 3 because of occurrence of hepatocellular carcinoma, 1 due to severe hepatic alcohol hepatitis associated with liver failure.

When a transient elastography examination is performed, stage F2 and above are considered to be advanced liver fibrosis. In our group, stages F2-F4 were found in 27/43 patients (62.7%). Of the patients with advanced hepatic fibrosis, 19/27 (70.3%) had never been treated for CHC before coming to our clinic. This is evidence for the late arrival of CHC patients to outpatient clinics, of the appearance of complications (liver cirrhosis, hepatocellular carcinoma, liver failure) only in advanced cases, and of the necessity of CHC screening.

DISCUSSION

Viral hepatitis C is widely spread throughout the world. According to WHO data, 130-150 million people globally are currently infected with CHC virus. Due to its asymptomatic course, acute infection is rarely diagnosed. Chronic infection (occurring in 60-80% of infected patients) is mostly detected by accident at screening or often only in an advanced stage [8].

Symptoms of chronic hepatitis C are rather inconspicuous and can mimic influenza – fatigue, malaise, muscle and joint pain, loss of appetite, sometimes vomiting, raised temperature. The value of the so-called liver function tests is not an indicator of disease activity. Patients with liver cirrhosis with CHC may have values of liver function tests values almost in the reference range while already having an advanced stage of liver damage [9].

An epidemiological study in Slovakia detected the prevalence of anti-HCV antibodies of 1.52% in adults over 15 years; with chronic infection confirmed by evidence of virus replication in 0.67% [10]. This suggests a total of over 30,000 chronically infected patients, of which only a fraction were diagnosed.

In our group of patients we found a prevalence of anti-HCV of 1.5%. Chronic infection was confirmed by evidence of virus replication in 1.2%. Our finding of prevalence of CHC (1.2% vs. 0.67%) is well above the national average. This may be caused by a number of factors:

- insufficient patient awareness of chronic liver diseases, including CHB and CHC in Eastern Slovakia,
- a larger Roma population compared to regions in Western Slovakia,
- fear of examination and possible detection of liver disease, and
- partly also indifference towards one's own health, because the „liver does not hurt“.

Other important causes of the disparity in prevalence include concern about the loss of employment, fear of long-term incapacity in case of serious liver damage, and limited screening performed by general practitioners. It is alarming that 62.7% of our group had a significant degree of liver damage (F2-F4) and before arriving to our clinic 70.3% of them had never been examined for anti-HCV antibodies.

According to the epidemiological data in Slovakia, screening of anti-HCV antibodies is recommended not only for patients in risk groups (drug users, recipients of blood transfusions prior to 1992, persons with tattoos or promiscuous lifestyles, and sexual partners of hepatitis C, hemophilia or hemodialysis patients, etc.), but also in patients of 50-60 years of age [9].

In the examined group, the average age of CHC patients was 51.6 years for males, 51.88 for females, which supports the idea of performing CHC screening in patients in this age group.

CONCLUSIONS

The work of several foreign authors shows a high risk of increasing of CHC complications over the coming decades, which may also bring serious economic challenges to health systems [10]. CHC complications occur primarily in patients with advanced fibrosis or liver cirrhosis as this stage has a 1.5% annual risk of HCC and a 4-5% annual risk of decompensation of liver cirrhosis (ascites, portal hypertension, hepatic encephalopathy). The 5-year survival of patients with compensated cirrhosis is 91% compared to 50% in patients after 1st decompensation [11].

CHC is currently the only chronic viral infection that can be definitively cured.

Therefore, it is necessary to systematically search for patients with only slight increase liver function test results. This will contribute to the early diagnosis of CHC, reducing the risk of liver cirrhosis and HCC.

Interdisciplinary collaboration between general practitioners, public health workers, hepatologists, gastroenterologists, infection practitioners, internists, diabetologists and cardiologists in the search for patients with CHC is vital, also taking into account the age of the patient.

DISCLOSURE

The authors report no conflict of interests.

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AUTHORS' CONTRIBUTIONS

MB prepared the research concept, collected data and wrote the article. IB approved the final version of the publication.