STUDY UPON THE INCIDENCE OF VIRAL HEPATITIDES

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Abstract

Diseases with unique cause, especially the infectious ones, have largely lost importance in the configuration of the epidemiological background, especially in economically developed countries, to the detriment of chronic diseases. The analysis of incidence through viral hepatitides in the period 2006-2010 demontrate the decreasing trend of such diseases. As viral hepatitides continue to pose major problems to public health, not only at the level of our county, but also at national and European level, it is therefore crucial to develop new prevention and diagnosis methods, which are economic and secure. Efforts should be made towards the identification of new "screening" – mass examination – methods that are viable and sensible, in order to gauge the risk facrtors and detect diseases in its early stages, which are clinically asymptomatic.

Key words: incidence, viral hepatitis, ill persons, public health, tendency

INTRODUCTION

Acute and chronic viral hepatitides are, have been and will be some of the serious problems of public health for humanity (Ciobanu V., 1998). Research conducted so far and the evaluation of results obtained during the last decades in the fields of epidemiology and fighting against viral hepatitis have brought about a remarkable evolution in the evaluation of the significance, for the world at large, of hepatitis and its definition as a major problem of public health (Ivan A., et al, 1981). Though the incidence of viral acute hepatitis has decreased in the world, in developing countries as well, given the prevention measures adopted, the safety of surgical interventions and the implementation in National Immunization Programs of vaccination against viral hepatitis B, the hepatitis C determines an increase of morbidity and mortality in the world today, due to the effects of this disease.

MATERIAL AND METHOD

Observation was used as study method (Clayton D., et al, 1993). The population of Bihor county was included in the study and the incidence of chronic diseases in the period 2006-2010 was monitored. As sources of information, necessary for the study of morbidity, we have used the results registered during current consultations, performed either in outpatient

clinics or in hospital, alongside the periodic reports and statistical bulletins and complex medical investigations (Marcu A., et.al, 2002).

RESULTS AND DISSCUSIONS

World health organization (WHO) monitors the indicators of morbidity, having the mission to coordinate and conduct research to identify the causes of liver infection and elaborate scientific strategies to prevent diseases caused by hepatitis, as well as control strategies (WHO/Europe 2011).

The main source of information is represented by WHO/Europe, European HFA Database. The total incidence through viral hepatitis is identified in reports from different countries until 2003, as up until this year pertinent comparisons among European countries could be made.

During the last three decades, Romania has presented an incidence through viral hepatitis of about three times higher than the average at the European level. Due to adopted prophylactic measures, the tendency associated with diseases of this kind is descendant (fig.1).



Fig. 1. The incidence through viral hepatitis in the European Region and in Romania, in the period 1980-2003 (Source WHO/Europe, European HFA Database, October 2011)

Viral Hepatitis A. The agent of viral hepatitis A is transmitted almost exclusively by fecal-oral. The interpersonal spread of hepatitis A is amplified by an insufficient personal hygiene and by overpopulation and the large epidemics, as well as the sporadic cases, have been attributed to contaminated food, water, milk and shellfish. The intra-familial and intra-institutional spread is also frequent. In the general population, the antibodies -anti-HAV- represent an excellent marker for the infections with hepatitis A from antecedents increase in prevalence alongside the advance in age and the decrease of the socio-economic status.

The incidence through viral hepatitis A (HAV) at the level of our country $(14.62^{0}/_{0000} \text{ in } 2008)$ and of Bihor county $(45.73^{0}/_{0000} \text{ in } 2008)$ is superior to the incidence in the European Region $(13^{0}/_{0000} \text{ in } 2008)$ (fig. 2).

At the level of Bihor county, over a period of 5 years, the incidence halved $(70.39^{0}/_{0000} \text{ in } 2006, 32.45^{0}/_{0000} \text{ in } 2010)$, the trend being strongly descendant. This situation is to be associated especially with the improvement of life conditions, the intensification of prophylactic measures and the observation, by the population, of the hygiene rules.



2. The incidence through viral hepatitis A in the European Region, Romania and Bihor county in the period 2006-2010

At the level of Bihor county, the source of infection is represented by the ill persons and the asymptomatic carriers (children, more frequently). The trend is descendant, both at the level of the county and of the country at large (MS-CCMSDM, 2010, MS-DSP Bihor 2006-2010) (fig.3.).



3. The number of new patients with viral hepatitis A in Romania and in Bihor county in the period 2006-2010

In rural areas, during the period considered in this study, the number of new patients with hepatitis A is almost double, as compared to the urban areas of Bihor county (table 1).

In 2010, the outbreaks of HAV in rural areas were as follows: 22 outbreaks with 1 case and 117 outbreaks with multiple cases. In urban areas there were 42 outbreaks at 1 case and 11 familial outbreaks with 2, respectively 3 cases. The average age of the cases was 16, of which children

under 10 represented 43,75%, while pupils and pre-school children represented 52,72%. With regards to the social situation of the cases of HAV, 49% from the total of cases were ethnic Roma and 63% lived in rural areas. Family outbreaks represent 30% of the total number of cases, while those over 5 cases were 62,74%.

Table 1

Commed HAV								
Years	2006	2007	2008	2009	2010			
Urban	121	105	127	92	79			
Rural	297	301	144	199	139			
Total	418	406	271	291	192			

In terms of regions in Bihor county, between 2006 and 2007 there were frequent outbreaks of viral hepatitis A in the area of Beius, while between 2008 and 2010 there more frequent cases were recorded in Oradea (MS-CCMSDM, 2010, MS-DSP Bihor 2006-2010) (table 2).

Table 2

Total number of new cases of viral hepatitis A, in relation to different regions in Bihor county

Year	Aleşd	Beiuş	Marghita	Salonta	Oradea	County
2006	36	114	98	76	94	418
2007	34	116	88	79	89	406
2008	7	20	16	15	147	271
2009	9	6	36	138	102	291
2010	24	4	78	29	57	192

Viral Hepatitis B. It is known that an important way of transmission of hepatitis B is the percutaneous, but the obsolete nomenclature of "transfusion hepatitis" is not a correct label for the epidemiological categories of infection known today. The large majority of the cases with hepatitis transmitted by blood transfusion are not caused by HBV; besides, at approximately half of the patients with acute hepatitis B there is no identifiable percutaneous exposure.



Fig. 3 Incidence through viral hepatitis B in the European Region, Romania and Bihor county in the period 2006-2010

The incidence through viral hepatitis B, in 2008, presents values, at the level of the European Region that are $3.73^{0}/_{0000}$ higher than the values registered in our country ($3.41^{0}/_{0000}$). At the level of Bihor county, the incidence presents a slightly descendant trend in the period studied, values of 5.22 in 2006 and 2.87 in 2010 being registered. (fig.3).

The new cases of contamination with viral hepatitis B registered at the level of our country in the period 2006-2008 present a descendant trend, in a period of three years the new cases reducing with 45%. At the level of Bihor county, in 2006, 31 new cases were registered and in 2010 17 new cases were identified (MS-CCMSDM, 2010, MS-DSP Bihor 2006-2010) (fig.4).



Fig. 4. The number of new cases of infection by hepatitis B virus in Romania and Bihor county in the period 2006-2010

The great majority of cases of infection by HBV, namely 81% of the cases, have been identified in urban areass, more specificallz in Oradea (table 3). In terms of locations, most new cases of infection by viral hepatitis B were diagnosed in Oradea.

Table 3

Territorial distribution of the number of cases of infection by HBV (acute viral hepatitis B), in Bihor county in the period 2006-2010

Year	Aleşd	Beiuş	Marghita	Salonta	Oradea	County
2006	3	4	5	3	16	31
2007	4	1	7	5	14	31
2008	6	4	10	1	15	36
2009	4	2	5	4	17	32
2010	3	3	1	1	8	17

Viral hepatitis C. In addition to transmission through transfusion, hepatitis C can be transmitted in other percutaneous ways, such as self-injection of drugs. In addition, this virus can be transmitted through occupational exposure to blood, and the probability of infection is higher in hemodialysis wards.

Complete data on the incidence of hepatitis C virus can be found in Europe until 2004. Thereafter, the reports are incomplete. Romania reported data in the period we have taken into consideration only in 2007 and 2008,

the incidence through this disease presenting values of $0.41^{\circ}/_{0000}$ in 2007 and $0.33^{0}/_{0000}$ in 2008. At the level of Bihor county, the values of the registered incidence in the period evaluated by us were highest in 2007 - $3.37^{\circ}/_{0000}$ and lowest - $0.84^{\circ}/_{0000}$ in 2009, the trend being descendant (fig.5).



Fig. 5.The incidence of hepatitis C in Romania and Bihor county in the period 2006-2010

The number of new cases of hepatitis C recorded values between 20 new cases in 2007 and 5 new cases in 2009. The trend is slightly descendant through this type of illness (MS-DSP Bihor 2006-2010) (fig.6).



Fig. 6. Number of new cases of viral hepatitis C in Romania and in Bihor county in the period 2006-2010

In terms of locations, Oradea municipality presents the highest number of new cases, as here lives more than 1/3 of the county's population. (table 4)

Table 4

Territorial distribution of new cases of HAV type C, Bihor							
Years	Aleşd	Beiuș	Marghita	Salonta	Oradea	County	
2006	0	4	2	2	10	18	
2007	2	0	3	2	13	20	
2008	2	0	4	0	8	14	
2009	1	1	0	0	3	5	
2010	2	0	1	3	7	13	

In 2009, there was a decrease in morbidity by hepatitis C, as compared to the other years considered in this study.

Non-viral ABC hepatitis. New cases of hepatitis, that could not be included in the first three categories, were framed. These types of hepatitides are transmitted either by enteric or bloodstream way.

The incidence by these diseases resembles the incidence registered by viral hepatitis B. The values registered were of $7.75^{0}/_{0000}$ in 2007 and of $3.54^{0}/_{0000}$ in 2010, the trend being descendant (fig.7).



Fig. 7. Incidence through viral non-ABC hepatitis in Bihor county in the period 2006-2010

The number of new cases registered in Bihor county varied between 46 cases in 2007 and 21 new cases in 2010. The trend of disease by these affections is decreasing (MS-DSP Bihor 2006-2010) (fig.8).



Fig. 8. The number of new cases of viral non-ABC hepatitis in Bihor county in the period 2006-2010

In terms of locations, about 2/3 of the cases of viral non-ABC hepatitis were registered in Oradea (table 5).

Table 5

Territorial distribution of HAVnABC hepatitis in Bihor county in the period 2006 - 2010

Year	Aleşd	Beiuș	Marghita	Salonta	Oradea	County
2006	3	3	1	7	29	43
2007	5	4	6	3	28	46
2008	5	4	3	3	20	35
2009	1	0	4	3	23	31
2010	0	1	2	8	10	21

CONCLUSIONS

The evaluation of results obtained in the field of epidemiology and combating viral hepatitis in the last decades has made an outstanding contribution to the assessment of the global significance of liver infection and its definition as a major problem of public health.

The incidence of acute viral hepatitis in the world has declined, in developing countries as well, due to prevention measures and the safety of surgical interventions and the implementation of national immunization programs of vaccination.

In 2008, at the European level, the incidence of hepatitis A registered values of $13^{0}/_{0000}$, while hepatitis B registered values of $3.73^{0}/_{0000}$. In Romania, the incidence through viral hepatitis A was of $14.62^{0}/_{0000}$, while through viral hepatitis B there were values of $3.41^{0}/_{0000}$, and through viral hepatitis C the values were of $0.33^{0}/_{0000}$. In Bihor county, the incidence through viral hepatitis B of $6.07^{0}/_{0000}$, while through viral hepatitis C the values were of $0.33^{0}/_{0000}$. In Bihor county, the incidence through viral hepatitis B of $6.07^{0}/_{0000}$, while through viral hepatitis C the values registered values of $45.73^{0}/_{0000}$, through viral hepatitis B of $6.07^{0}/_{0000}$. The incidence through viral hepatitis is higher in Bihor county as compared to data registered at national and European level, the trend of these diseases being descendant.

Knowing and monitoring the incidence of viral hepatitis and its distribution in areas is necessary to decision makers in the field of health care, in order to ellaborate health policies. These diseases, as priority problems of public health in our county, should be viewed with interest by specialists and decision-making factors, so as the short and medium-term strategies on the development of health services to be oriented in such a way, through sanitary policies, as to overlap on morbidity.

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