



CEREBROVASCULAR INSULT HOSPITAL CASES IN WEST HERCEGOVINA CANTON FROM 1998 TO 2002

IVAN VASILJ¹, SEMRA ČAVALJUGA^{2*},
TOMO LUČIĆ³, FERDO KVESIĆ⁴

1. Institute of Public Health, West Hercegovina Canton, Kraljice Katarine bb, Grude, Bosnia and Herzegovina;
 2. Institute of Epidemiology and Biostatistics, Faculty of Medicine, University of Sarajevo, Čekaluša 90, 71000 Sarajevo, Bosnia and Herzegovina (email: smcavalj@bih.net.ba);
 3. Ministry of Health, M. Tita 7, Federation of BiH, Sarajevo, Bosnia and Herzegovina;
 4. Institute for Health Insurance, West Hercegovina Canton, Kraljica Katarine bb, Grude, Bosnia and Herzegovina.
- * Corresponding author

ABSTRACT

Analysis of a cerebro-vascular insult hospitalised cases from West Hercegovina Canton as a retrospective epidemiological study was done in Clinical hospital Mostar for the period from 1998 to 2002. The major source of data was medical documentation of this hospital, the only hospital for the treatment of 88,257 inhabitants from this Canton. The study included a total of 393 cerebro-vascular insult cases from this Canton treated in the Clinical hospital Mostar. Among them 189 (48.1%) were male patients, while 204 (51.9%) cases were female. The majority of the cases were above 50 years of life. Majority of treated female patients were older than 65, while among male patients the majority were between 50 and 65 years old. The least number of cases was under 50 years in both groups. During the same period risk factors research for entire FBiH was performed on the sample of 2,750 national insurance holders. Out of them 1.7% was found to suffer of cerebro vascular insult.

KEY WORDS: cerebrovascular insult, hospital morbidity, West Hercegovina Canton

INTRODUCTION

Cerebro-vascular (brain) insult is defined as sudden focal neurological deficit, caused by a cerebro-vascular disease lasting more than 24 hours. Cerebro-vascular insult in general is divided as ischemic and hemorrhagic (bleeding brain insult). Ischemic insult is more often, while around 10% of all brain insults are manifested as brain bleeding (1). Together with cardiac and malignant diseases, cerebro-vascular diseases are the most common mortality and invalidity cause of modern humans. Each year about 5.5 millions of people all around the Globe suffer from brain insult. Because of that fact, this disease is the leading cause of disability (2, 9, 16). Complications are occurred among 25-40% of the cases; the most common are pneumonia, hearth decompesation, and pulmonary embolia (10). Brain insult occurs because of brain blood circulation problems, which results in insufficiency in oxygen supply for some parts of the brain. That leads to partial brain damages resulted in functional disability for the function performed by that part of the brain (2, 3, 4). It is estimated worldwide that as much as 46% of brain insult cases is among people between 45 and 59 years of life, while from 30 to 45 years the incidence is about 3%. Major cause in etiology of brain insult is blood vessels damaging due to atherosclerotic processes by mechanical (blood pressure) and/or chemical (hypercholesterolemia) factors; inflammation process of blood vessels; or within some immune diseases (lupus erithematodes) (1,6,10). In literature major risk factors for developing of brain insult are: arterial hypertension, cardiac diseases, diabetes mellitus, adiposity, smoking, stress, high cholesterol, and rare hyper-uric diathesis (7,8). Together with treatment, preventing the risk factor (except for the unchangeable) is the best way to avoid insult.

OBJECTIVE

The objective of this paper was to analyse the frequency of cerebrovascular insult in West Hercegovina Canton from 1998 to 2002 as well as research on hospitalised cases according to the sex and age distribution, by demografic and epidemiological characteristics.

PATIENTS AND METHODS

Retrospective epidemiological study of hospitalized brain insult patients from West Herzegovina Canton was conducted in Clinical hospital Mostar. This hospital is the only hospital for 88,257 inhabitants of West Hercegovina Canton. Municipalities in this Canton

are: Ljubuški, Grude, Široki Brijeg and Posušje. This population lives there for years - there were no recent migrations. As a source of data we used medicinal documentation of Neurology department. For each of the cases we needed: age, sex, place of living and clinically confirmed cerebro-vascular insult diagnosis. From 1 January 1998 until 31 December 2002 a total of 393 insult cases were hospitalized. Among them, 189 were male and 204 were female patients. The cases were divided in three age groups: 30-49, 50-64 and 65 and more years of life by sex. For the analysing of table data, standard methods of descriptive statistics were performed.

RESULTS

Structure of cerebro-vascular insult treated cases in Clinical Hospital Mostar according to the age and sex was shown in Table 1. A total of 393 cases were treated of brain insult in the period from 1998 through 2002 in Clinical hospital Mostar. Out of that number 189 (48.1%) were male patients, while 204 (51.9%) were female patients. Among both sexes a total of 16 cases (4.1%) were between 30 and 49 years old, 66 patients (16.8%) were from 50 through 64 years old, and waste majority of patients treated because of the brain insult were 65 and over. Among all male and female patients observing separately by gender as a cluster, majority of the treated male cases were in the oldest group of cases 73.5% (139 patients) as well as it was observed among female patients where registered percent in this group was even higher - 84.3% or 172 patients. The lowest number of cases according to the age structure was treated among younger patients - 30-49 years old among either sexes - 6.3% (or 12 cases) of male cohort, and only 1.9% (or 4 cases) of female cohort.

DISCUSSION

During the previous, recent period, population of Bosnia and Herzegovina was exposed to certain level of exposure to different risk factors influencing health status of individuals. This was particularly the case with the chronic non-communicable diseases, gastrointestinal problems as well as viral diseases. Psychosocial factors and changed life styles, dietary regime, psycho stresses and social and economic factors have linked with greater number of brain insult cases (11). Cardiovascular diseases are the leading cause of mortality Worldwide. Cerebro-vascular diseases are the leading cause of mortality among female population in neighbor countries in transition (Croatia), while the same diseases are in the second place among male population, just follow-

GENDER	NUMBER OF CASES		AGE					
	1998 - 2002		30 - 49		50 - 64		≥ 65	
	N°	%	N°	%	N°	%	N°	%
MALE	189	100.0	12	6.3	38	20.2	139	73.5
FEMALE	204	100.0	4	1.9	28	13.8	172	84.3
TOTAL	393	100.0	16	4.1	66	16.8	311	79.1

TABLE 1. Frequency of hospital treated cerebro-vascular insult cases in West Herzegovina Canton from 1998 - 2002

ing cardiovascular diseases (12). The same is characteristic for Bosnia and Herzegovina, and particularly for Federation of BiH (13). In West Herzegovina Canton from 1998 until 2002 total of 963 cerebro-vascular/brain insult patients were registered. Among those cases 393 (or 40.8% of total) were hospital treated patients. That percent is understandable because one percent of patients die before even reaching a hospital, one part is out-patient facility treated because as a part of primary health care exist centers for mental health and physical medicine and rehabilitation (e.g. in Ljubuški) (15) and the rest of the cases are going to a hospital. According to the available literature the greater part of hospital treated patients according to the age is after 50 year of life. That is confirmed in our study where 85.9% of patients were in that age group. We observed 79.1% patients senior then 65 years. If we look to the sex distribution, 48.1% were male, and 51.9% were female patients among hospitalized. This data is similar to other authors' findings (10). Our findings show that greater number of treated women were older then 65 - 55.3% comparing to 44.7% of men among all our hospitalized patients. According to the same findings, looking to the younger patients, that ratio is slightly different - 60.9% of men vs. 39.1% of treated women. That is understandable having in mind that women have some

hormone protection until the after of menopause, and this finding is matching the other authors' findings (4). Some authors' estimation considering age and brain insult is that in between 45 and 59 years of life should be about 46.0% of all brain insult cases (8). Brain insult incidence according to the literature until 45 years of life is 3% (8), while we found 4.1% in that age group among all our observed hospitalized patients. Calculated as an incidence rate per existing Canton population and per 1000 population it would be much lesser that the mentioned literature incidence rate - 0.180/00. If we bear in minds that this patients were only hospital treated patients, without above mentioned out-patient clinics treated ones and lethal ones, that rate will be higher. Cerebro-vascular/brain insult as a last stage of cerebro-vascular diseases is among top leading mortality cause Worldwide, so research on risk factors for developing that disease is of the highest importance. Such a research study was done among 2,750 insured in FBiH using questionnaires and measurements. Among that population 46 (or 1.7%) were found to have brain insult. Regarding standard risk factors 18.5% were found to have hypertension, 15.8% hypercholesterolemia, and 5.9% diabetes. Similar results were found among 99 insured participants in this study from West Herzegovina Canton (14).

CONCLUSIONS

In this retrospective epidemiological study from 1998 - 2002, 393 brain insult patients were hospitalized from West Herzegovina Canton. The greater part of hospitalized patients age 65 and more were women; in the age group from 50 to 64 years majority were men, same as among patients from 30 to 49 which was the smallest patient cohort. Regarding objective of this study on frequency of hospitalization of cerebro-vascular insult cases West Herzegovina follows other neighboring countries in transition. More attention must be given to the prevention programs and activities.

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