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Cerebrovascular disease in Odessa region: epidemiology and prognosis

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Abstract

Cerebrovascular disease in Odessa region: epidemiology and prognosis.

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The study was aimed to assess the incidence and prevalence of cerebrovascular diseases in Odessa Region. There was demonstrated that Odessa region has higher rates of CVD incidence and prevalence. The areas of high risk include Bessarabia and Dunabe districts belonging to the southern districts of Odessa region which are characterized with high environmental pollution and unfavorable mineral composition of drinking waters. The preventive strategies which could cut the current rate of CVD incidence are discussed.

Key words: cardiovascular disease, stroke, epidemiology, Odessa region.

Cerebrovascular disease (CVD) is one of the most pressing health and social problems in Ukraine. The significance of the problem stems from the fact that the CVD are one of the main causes of death and disability in the adult population [1].

Previously, data on the prevalence, incidence, mortality, risk factors for CVD are analyzed on the basis of data of official statistics Ministry of Health of Ukraine and the results of the register of stroke in certain cities [1, 2].

According to official statistics of Health Ministry of Ukraine, at the present time there are more than 3 million people with various forms of CVD which is relevant to 8219.3 per 100 thousands of population is. Approximately one third of all patients are represented with people of working age. In 62.0% of patients with CVD they have manifested arterial hypertension. Over the past 10 years the prevalence of CVD increased by 2 times [2].

Among all forms of CVD cerebral strokes have the greatest significance. Every year in Ukraine there are registered between 100 and 120 thousands of new cases of stroke. So the incidence of stroke in Ukraine is higher than in developed countries. Results of registers of stroke in certain regions of Ukraine show that the main risk factors for CVD are hypertension (78%), heart disease (48%),

hypercholesterolemia (39%), diabetes mellitus (18%), smoking (30%), alcohol abuse (35%). In most cases there is a combination of risk factors in each patient.

The study was aimed to assess the incidence and prevalence of cerebrovascular diseases in Odessa Region.

Materials and methods

There was conducted the analysis of the official reports of the Odessa Regional Information and Analytical Center for Health Statistics for the years 2010-2014. All obtained data were systematized and processed using software MS Excel (Microsoft Inc., USA).

Results and Discussion

The analysis of CVD prevalence demonstrated that every year in the Odessa region registered 11,570 cerebrovascular diseases per 100 thousand of population. It is higher by 3,168 cases than in Ukraine as a whole.

The prevalence of stroke was the highest in Bessarabia and Dunabe region as well as in the northern districts while in most areas is available upward trend in the number of persons who have suffered a stroke.

However, the spatial distribution of areas with consistently high incidence of cerebrovascular disease was slightly different - the highest levels for 2010-2014 were recorded in Artsyz, Bolgrad, Sarata, Izmail and Ananyiv districts. This discrepancy can be explained by the different nature of the indicators and their high variability over years of analysis.

When applied to map areas of high incidence from cerebrovascular disease and stroke there were selected areas of high risk. From Figure 1 below it shows that the spatial distribution of high risk zones are uneven, they mostly belong to the southern districts of Odessa region, where the main sources of water in them underground aquifers and drinking water are of an extremely highly mineralized [3].

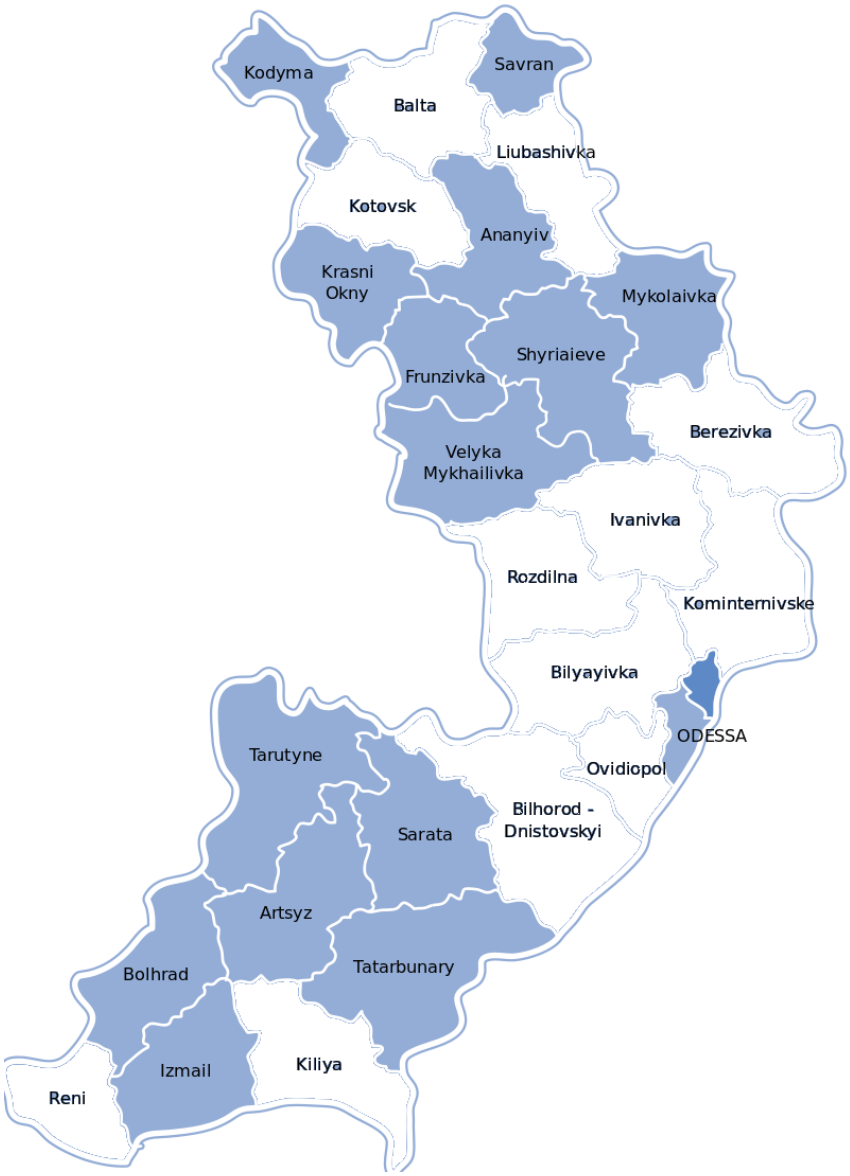

Figure 1 The incidence of stroke and CVD in Odessa Region

In 2014, in the Odessa region recorded 6,300 cases of stroke whereas in the city of Odessa – 2024 cases. Many of these cases could be prevented by the early diagnosis and treatment of systemic arterial hypertension - this preventive strategy could reduce the risk of stroke by 40%.Other effective methods of CVD prevention include control of blood sugar levels, and promotion of healthy life style (avoiding harmful habits, healthy diet and physical activity) - the risk of stroke is reduced by 80% if all listed above is applied .

Conclusion:

1. Odessa region has higher rates of CVD incidence and prevalence than other Ukrainian regions
2. Environmental factors (water quality, manmade pollution etc) could be related to high incidence of CVD and stroke in Odessa region
3. Preventive strategies could cut the current rate of CVD incidence by 40-80%

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