
STRUCTURE OF CARDIOVASCULAR PATHOLOGY IN AGED PERSONS

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The cardiovascular system diseases occupy one of the leading places among the world's dangerous diseases of the XX–XXI century. Along with oncological diseases and diabetes, they are one of the main causes of death and disability of the population. Most of the diseases of the circulatory system occur in the elderly, which is due to a decrease in the functional and adaptive capabilities of this system.

Keywords: cardiovascular system, age changes, aging, ischemic heart disease, cerebrovascular disease, arterial hypertension.

In considering the forms of cardiovascular disease (CVD) pathology in the elderly, we identified four groups of diseases: coronary heart disease (IHD), cerebrovascular diseases, inflammatory heart diseases, arterial hypertension, which were associated with various pathologies on functional disorders of SSS, morphological changes in the heart, causes of emergence, manifestations, risk factors and other characteristics. For example, the IHD group included angina pectoris, unstable angina pectoris, acute myocardial infarction, acute subendocardial myocardial infarction. The study was carried out on the basis of district statistical reporting data provided by the "Central District Hospital of Cherikov", the number of cases of CVD cases registered among elderly people living in the city of Cherikov and Cherikov district of the Mogilev region for the period from 2011 to 2013, as well as information on the number of elderly people in the territory over the same period of time was used. Further, the statistical treatment of the data was carried out: an intensive indicator was calculated to determine the incidence of SSS in elderly people in relation to the average population of this category; An extensive indicator was determined for the calculation of the specific gravity of elderly patients with a specific CAS pathology. In addition, the rate of growth / loss was calculated as the ratio between the number of cases of CVD disease in elderly people in a given period of time and the number of elderly people observed in a hospital in the same period of time.

The study concluded that the most common form of SSS in the analyzed period (2011–2013) in older people are cerebrovascular diseases, which is consistent with the literature data [1]. Thus, this pathology prevailed in 2011 (56.49%) and in 2013 (65.95%). In 2012, coronary heart disease prevailed (55.69%). Less common were arterial hypertension and inflammatory diseases of the heart. Analyzing the indicators of the overall incidence of SSS, we noted their decline among persons in this category of population in the study period of 2011–2013 by 15.25%. This can be explained by the improvement of the quality of life of the population (correct and rational nutrition, rejection of bad habits, active lifestyle, reduced stress level), as well as timely early diagnosis and quality treatment of these diseases. In addition, it can be assumed that the emergence of this trend is due to an increased manifestation of SSS pathology in people under the age of 60 years.

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ANTIBIOTIC RESISTANCE IN THE MODERN WORLD

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The problem of antibiotic resistance has been actively studied since the end of the 19th century and don't lose relevance to this day. It is the cause of the impossibility of fast and effective treatment of many diseases. The main difficulties in solving this problem are caused by its polyetiology: it is due to both the actual features of the culture of microorganisms and environmental conditions. Currently, the problem is being actively studied by experts around the world, with particular emphasis on its genetic basis.

Keywords: antibiotic resistance, biofilm.

The phenomenon of antibiotic resistance has been actively studied since its discovery by Louis Pasteur in the second half of the 19th century to the present day. The main reason for the appearance of immunity to any kind of antibiotics in bacterial cells are mutations, which are then transmitted to other bacteria by means of conjugation, transformation or division [1]. In this case, the most resistant are microorganisms that are part of biofilms. Bacteria in the biofilm actively exchange signals from stimuli, energy and genetic information [2].

Bacteria in biofilms have increased survival in the presence of aggressive substances, immune defense factors and antibiotics. Bacteria and fungi in biofilms survive in the presence of antibiotics, in particular, biofilms were able to withstand concentrations of antibiotics in 100–1000 times more therapeutic dosages suppressing single bacterial cells [3]. Because free bacterial cells are less protected than biofilms, an antibiotic that is highly active in vitro when tested in a clean culture may not be effective in in vivo trials (where the phenotype of biofilms predominates). In this regard, one of the main problems of practical medicine is the problem of treatment of diseases of microbial origin, in cases where the sensitivity to antibiotics of microorganisms associated with biofilm does not correspond to that defined in laboratory tests on clinical isolates of pure cultures of bacteria. In this regard, in recent years there is an active study of the action of antibiotics on the biofilms of bacteria that cause pathological processes of different localization [4].

The wide availability of antibiotic, the wrong choice of antibiotic, its dosage regimen or duration of treatment, and other mistakes lead to the formation and spread of antibiotic-resistant strains of microorganisms, which today is a global problem for all countries of the world [5].

One of the ways to combat antibiotic resistance is to find alternative ways to disrupt the bacterial structure, such as the use of peptide molecules [6].

The main WHO strategy in response to expanding the range of antibiotic-resistant bacteria is to produce new, more effective antibiotics [7].

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CONGENITAL MALFORMATIONS OF THE DIGESTIVE SYSTEM

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The analysis of data on morbidity of children with congenital malformations (CDF) of the digestive system in the Republic of Belarus for the period of 2015–2016 was, on average, was 58 cases with a frequency of 4.06 ‰. It was found that the most common pathology is atresia of the anus (32.7%) and atresia of the esophagus (22.4%). The population frequency was 0.49 cases and 0.33 cases per 10,000 newborns, respectively. The effectiveness of prenatal diagnosis for the same period was on average 56%.

Keywords: congenital malformations, digestive system, newborns, atresia.

Congenital malformations are one of the main causes of perinatal and early child mortality, causing serious medical and social problems in society according to the World health organization (WHO), malformations belong