

grades – clonic seizures, 4 grades – clonic tonic seizures, 5 grades – tonic extensity, 6 grades – tonic extensity, which led to the death of the animal), the duration of the convulsive period, the lifetime of the animals before death and mortality.

Results and discussion. It has been found that the studied substances-leaders at a dose of 100 mg/kg showed an anticonvulsant effect by statistically significant ($p < 0.05$) decrease the percentage of animals with tonic seizures, their severity and duration of convulsive period in clonic seizures and tonic extension. The significant differences in the anticonvulsant activity of the studied substances has not been identified comparing with the effect of the reference drug carbamazepine.

Conclusions. The obtained result point at the expediency of further study of the various mechanisms of new derivatives of 2,4-thiazolidinedione as perspective anticonvulsants with polytropic pharmacological properties.

PROBLEMS AND PROSPECTS OF VITAMIN THERAPY

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Introduction. Vitamins are a group of low-molecular compounds of a different chemical nature. Most vitamins are coenzymes or their precursors. Vitamins are contained in food (or in the environment) in very small quantities and therefore belong to micronutrients. The human body does not synthesize vitamins or synthesizes in insufficient quantities, so their supply with food is compulsory. Despite the fact that vitamin-rich foods are well known, it is extremely difficult to reach the daily norm of vitamins. One can not but agree that the problem of deficiency of vitamins and minerals in the diet of most modern people does exist. Many vitamin-containing drugs can be seen on the modern pharmaceutical market. How much vitamin-containing drugs intake is needed is the question.

Aim. Find out if it's worth to use vitamin-containing drugs.

Materials and methods. Analysis of the scientific literature and the results of advanced research in the field of medicine and pharmacology.

Results and discussion. Many scientists in the field of medicine and pharmacy are asked the question is «is it worth to take vitamins?». On the one hand, we need to get them from the outside. Considering that we consume less useful food, it is quite difficult to get the necessary amount of vitamins from food. The products of modern food industry often do not contain any vitamins. The content of fresh vegetables and fruits of vitamins and minerals, directly depends on the conditions in which they were grown. If the soil is poor in mineral substances – in the plants of these substances, too, there will be little. If the growth and maturation of fruits and vegetables has been artificially accelerated, they will not have time to accumulate enough useful substances even on mineral-rich soil.

To claim that getting all the necessary vitamins only from food is impossible – an exaggeration. However, it is necessary to take into account additional factors. For example, caffeinated beverages, milk and dairy products impair the absorption of vitamins and minerals or provoke their loss. When consuming meat, eggs, dairy products, the beneficial microflora bacteria that synthesize vitamins will be replaced by putrefactive ones. To maintain a healthy microflora, fresh, non-processed vegetable products containing fiber are needed. The harmful effects on the microflora also have antibiotics. 90% of the population are infected with helminths.

It is desirable that the multivitamin complex, in addition to vitamins, contained minerals. They help each other to be absorbed and absorbed better. For example, calcium, necessary for muscle and bone tissue, is better absorbed in combination with vitamin D₃, and magnesium – with vitamin B₆. It will be quite enough, if in the complex chosen by you will contain vitamins of group B, vitamins A, C and E and magnesium, calcium, iron, zinc.

In Ukraine, more than 200 multivitamin drugs have been registered. And biologically active food supplements is much more. Theoretically, all of them can cause allergic reactions. Most likely, allergies are caused not by vitamins and minerals themselves, but by other substances that make up to medicinal

forms. This can be avoided if manufacturers provide reliable information about the drug, and a person who buys a vitamin drug will carefully study the composition and instructions.

Absorption of vitamins from multivitamin complexes is also important. There are two opinions. At first, the components of the vitamin drug are not absorbed (or absorbed only partially). The fact is that the absorption of many vitamins and minerals depends on the substances that come with them. For example, fat-soluble vitamins are metabolized only when consumed together with fats. Or the opposite example: iron and calcium «mutually destroy». Therefore, different vitamins and minerals in one tablet (capsule, dragee) can disrupt each other's absorption. The opposite view – vitamins and minerals from multivitamin drugs are absorbed even better than natural ones. And with the problem of «mutually destroying» vitamins and minerals, the pharmacological industry copes with microencapsulation.

If you suspect hypovitaminosis, you should definitely go to a polyclinic. This can be a standard biochemical blood test, a comprehensive analysis that checks the level of essential vitamins, or urine analysis.

The intake of vitamins is necessary for those people who use diets, regardless of the season. Experts recommend to regularly take vitamins to those involved in sports, children during their active growth, pregnant, lactating women and vegetarians. Preventive course of vitamin therapy in the winter-spring period is recommended to take place all people.

Conclusions. Thus, the question of whether to recommend the use of multivitamins or refuse them, there is no precise answer so far. In modern conditions, the habit of using multivitamins is a useful part of a healthy lifestyle. Before buying a vitamin complex, consult your doctor. With proven hypovitaminosis, take a specific vitamin or group of necessary vitamins. Minimize and optimize the heat treatment of foods, eat a variety of foods, regularly eat seasonal fruits and vegetables, replace white bread and pastries with more useful cereals.

THEORIES OF AGING

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Introduction. Aging is a combination of age-related changes in the body, leading to the formation of age-related pathology and an increase in the likelihood of death. This deterioration is the primary risk factor for major human pathologies including cancer, diabetes, cardiovascular disorders, and neurodegenerative diseases. The study of the fundamental mechanisms of aging is needed to develop a more effective treatment of diseases of the elderly and senile age.

Aim. Carry out an analytical review of the mechanisms for the development of aging and the most effective methods of its prevention.

Materials and methods. Data analysis of literature and Internet sources.

Results and discussion. Many theories have been proposed to explain the process of aging, but neither of them appears to be fully satisfactory. Modern biological theories of aging in humans fall into two main categories: programmed and damage or error theories. The programmed theories imply that aging follows a biological timetable, perhaps a continuation of the one that regulates childhood growth and development. This regulation would depend on changes in gene expression that affect the systems responsible for maintenance, repair and defense responses. The damage or error theories emphasize environmental assaults to living organisms that induce cumulative damage at various levels as the cause of aging. The programmed theory has three sub-categories: programmed longevity (aging is the result of a sequential switching on and off of certain genes, with senescence being defined as the time when age-associated deficits are manifested; endocrine theory (biological clocks act through hormones to control the pace of aging; aging is hormonally regulated and the evolutionarily conserved insulin/IGF-1 signaling (IIS) pathway plays a key role in the hormonal regulation of aging); immunological theory (the immune system is programmed to decline over time, which leads to an increased vulnerability to infectious disease