medicine has achieved a significant increase in the average life expectancy, aging remains largely mysterious and, unfortunately, an inevitable process.

Aim. The purpose of this work was to study the molecular mechanisms of human aging.

Materials and methods. To achieve this goal, an analysis of literary sources and generalization of the received information was carried out.

Results and discussion. Currently, there are several theories explaining human aging. These are theories that consider aging as a special program, and theories that assume that aging is associated with the accumulation of certain injuries in the body. Theories of programmed aging are based on the fact that the functioning of a living organism is programmed by nature for the period of its active life. After the program is completed, the activity of the hypothalamus and the endocrine system changes, which leads to a decrease in the efficiency of the functioning of the body. The telomeric theory suggests that in somatic cells during each replication, due to the peculiarities of enzyme work, the ends of chromosomes, telomeres, are shortened. At the same time, sections of the genome that are important for cell survival disappear. According to the free radical theory of aging, cell dysfunction is caused by active forms of oxygen, which cause a number of elderly diseases: cardiovascular, tumor, diabetes, etc. The next theory that explains aging is the accumulation of intracellular and extracellular by-products of metabolism that damage cells and tissues: cholesterol, amyloid and glycosylated proteins. Aging is also associated with impaired regulatory mechanisms, for example, the relationship between pro- and anti-inflammatory systems.

Conclusions. Existing theories differ on how much the accumulation of these harmful products is programmed in the genome, and whether such "programming" is a suicide program or simply an inevitable payment for additional evolutionary advantages. In addition to the actual damage, the rate of their accumulation is important, due to the overall intensity of metabolism. The most significant changes in the lifespan of model organisms were associated with mutations that modulate the intensity of metabolism.

MODERN PROBLEMS FOR TREATING MULTIPLE SCLEROSIS

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Introduction. Multiple Sclerosis (MS) is a chronic progressive disease of the central nervous system characterized by demyelination and degeneration of the nerve fiber, has a polymorphic clinical picture, adverse course, early disability, and limitation of living conditions. MS suffer from mainly young people of working age, which testifies to the social significance of this pathology.

Aim. The purpose of this work was to study modern approaches to MS treatment.

Materials and methods. To achieve this goal, an analysis of literary sources and generalization of the received information was carried out.

Results and its discussion. Treatment of MS remains one of the most serious problems of practical neurology. The main tasks of MS therapy are the treatment and prevention of exacerbations and the weakening of the progression of the disease. The current standard for exacerbation of MS is high-dose pulse therapy – 1000 mg of methylprednisolone for 5 days. Methylprednisolone slows the activation and proliferation of T-lymphocytes, reduces the formation of antibodies, reduces the permeability of the blood-brain barrier. For the treatment of MS, immunomodulators (preparations of interferon-beta, glatiramer acetate) and immunosuppressants (mitoxantrone and natalizumab) are used exacerbated. Until now, preparations of the first choice remain interferon-beta and glatiramer acetate. Glatiramer acetate acts on the initial link of the pathogenesis of MS, forming a strong linkage with the main histocompatibility complex of class II, displacing other autoantigens from the tri-molecular complex and becomes a pseudo-target for activated auto-aggressive T-lymphocytes. Currently, along with first-generation drugs for treatment of MS, use of second-generation drugs, in particular, Fingolimod, which is a synthetic modulator of singgosin-1-phosphate receptors on the surface of lymphocytes. It reduces the output of activated T lymphocytes from the lymph nodes and their penetration into the central nervous system, thus reducing the severity of inflammation and degree of damage.

Despite the use of all these drugs, a number of patients remains MS activity and there is a need to find other therapies. Therefore, modifications of the dose and combination of drugs, selective immunomodulators, monoclonal antibodies, gene and immunospecific therapy, T-cell vaccines, etc. are currently being used.

Conclusions. Questions of MS treatment require further experimental development, preclinical and clinical studies of new methods.

STUDYING THE ANALGETIC ACTIVITY OF PLANT EXTRACTS BASED ON THE CHINESE POPLAR (*POPULU SIMONII*)

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Introduction. In modern conditions, medicinal plants are becoming increasingly popular, as are preparations based on them. The limited range of side effects, high bioavailability, the possibility of using in chronic diseases for a long time, low toxicity are the advantage of phytomedication. Poplars are trees that are widespread throughout Ukraine. Bark, buds and leaves have medicinal value. The healing properties of poplar have long been used in fever, malaria, chronic bronchitis, pulmonary tuberculosis, gastritis, diseases of the liver, biliary tract and spleen, as well as neuralgia, radiculitis, arthritis and sciatica. Preparations based on medicinal raw materials of poplar possess antipyretic, anti-inflammatory, antimicrobial, anesthetic, wound healing, astringent and diuretic properties.

Aim. Study of the analgesic activity of lipophilic and dry extracts of Chinese poplar bark on a model of acetic acid cramps in rats.

Materials and methods. Acetic acid cramping was carried out according to the method of P. F. Trinus on 30 white non-linear rats of both sexes, weighing 180-220 g. 30 minutes before the administration of algogen (0,6% solution of acetic acid was injected intraperitoneally at the rate of 0,1 ml per 10 g body weight) animals of the first group (control) were orally administered with distilled water, the second — the classic non-narcotic analgesic — analgin, at a dose of 55 mg / kg, the third — altan, at a dose of 1 mg / kg, the fourth — lipophilic extract of the Chinese poplar bark, at a dose of 50 mg / kg and fifth – dry poplar bark extract China one, at a dose of 50 mg / kg. Analgesic activity was assessed by the ability of the drugs to reduce the amount of writhing in experimental animals, comparing them with the control indicators and the indicators of groups of animals treated with the treatment of the reference drugs: analgin and altan.

Results and discussion. The results of the study indicate a pronounced analgesic activity of lipophilic and dry extracts of Chinese poplar bark on the model of acetic acid cramps, which corresponds to 64,0% and 59,8%. It was established that the effect of the studied poplar extracts of Chinese (lipophilic and dry) at a dose of 50 mg / kg is inferior to the activity of analgin by 10,8% and by 15,0%, but more effective than the action of altan by 8,2% and 4,0%.

Conclusions. The lipophilic and dry extracts of Chinese poplar bark (Populu simonii) at a dose of 50 mg/kg showed more pronounced analgesic activity and prevailed over the action of altane 1,2 and 1,1 times, but were inferior to the action of analgin in 1,2 and 1,3 times. Lipophilic bark extract of Chinese poplar showed greater analgesic activity than dry.

PRIMARY ARTERIAL HYPOTENSION SYNDROME AND ITS CORRECTION

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Introduction. Primary arterial hypotension syndrome (PAHS) is a common disease in our country, the frequency of which in the world is about 3%. It manifests itself as headache, dizziness,