APOPTOSIS: PROGRAMMED CELL DEATH AND ITS ROLE IN THE DEVELOPMENT OF DISEASES

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Introduction. Apoptosis is responsible for tissue remodelling during the development and turnover of normal tissue throughout the life span. Apoptosis has a central role in the pathogenesis of human disease when the genes controlling the apoptotic process are suppressed, overexpressed or altered by mutation. Research into apoptosis is proceeding at a fast pace and this has led to the possibility of new therapeutic approaches to some intractable human diseases.

Aim. Carry out an analytical review of the role of apoptosis in the development of pathological processes.

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

Results and discussion. The role of apoptosis in a number of pathological processes is extremely large. Both strengthening and weakening of apoptosis can play a crucial role in the development of many pathological processes. Abnormal increase in apoptosis in the process of fetal development can lead to the effect of "minus tissue", which ends with fetal death. As a result of an increase in the level of apoptosis of hematopoietic progenitor cells, severe combined immunodeficiencies, aplastic anemia, and pancytopenia occur (an insufficient production of so-called "survival factors", for example, interleukin 7, which is a cytokine that inhibits apoptosis of stem and other progenitor cells. Increased apoptosis plays a leading role in the development of neurodegenerative processes (Alzheimer's disease, Parkinson's disease and others). Increased apoptosis of T-helper cells in AIDS is the main pathogenetic mechanism of this immunodeficiency. On the other hand, increased apoptosis of cells infected with viruses or damaged by microbial toxins plays a positive role, interrupting the progression of viral and microbial infections. The weakening of apoptosis can also contribute to the development of pathological processes, for example, in case of oncological diseases. Increased production in cells of the immune system of factors that inhibit apoptosis, as well as the formation of extracellular factors that block apoptosis (for example, the appearance of soluble receptors of certain cytokines that can induce apoptosis) can lead to the development of a number of autoimmune processes, up to the onset of systemic autoimmune pathology.

Conclusions. Further elucidation of the role of apoptosis in these diseases may lead to new possibilities for treatment.

THE STUDY OF HYPOGLYCEMIC ACTIVITY CAPSULES «HLIFASOLIN» BASED ON DIABETES TYPE-2

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Introduction. One of the actual problems of the modern endocrinology is the problem of adequate correction of diabetes and its complications. Autoimmune diabetes according to classification WHO – diabetes type-2 – Latent autoimmune diabetes in adults «LADA». Leading role in the emergence of the name belong to autoimmune type of damage of β-cells of the pancreas. Unlike acute insulin deficiency during diabetes type-1, autoimmune diabetes progresses slowly and determines gradual developing of the insulin deficiency. Despite on the wide arsenal of modern antidiabetic remedies, the problem of real compensation diabetes type-2 is still stayed unsolved, so it is the grounding of the searching and creating of new, effective and at the same time low toxic antidiabetic remedies.

Aim. Studying of influence of capsules «Hlifasolin» based on a thick bean extract at the dose of 40 mg/kg to the acute insulin deficiency of rabbits.