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Natural Science Readings

abstracts book

(May 19-22, 2016, Bratislava)

the body weight per day.

Results. On the 42nd day of the experiment the control group presented signs of microangiopathy, destructive changes touched upon all the parts of HMCB: arterioles, metaarterioles, capillaries, and venules. Erythrocyte sludging in the capillaries, narrowing of the lumen in arterioles, dilation of venules were found. With the therapy with exenatide average diameters of arterioles and capillaries enlarged on 6,5% and 2,9% respectively, which is indicative of reduced angiospasm as compared with the control group. Such reconstruction of the micro blood vessels to our opinion is caused by reduced swelling of the endotheliocytes due to the improvement of carbohydrate metabolism against h ground of treatment. Average diameters of venules in case of every day injection of exenatide as compared with untreated animals become on 8,7% narrower which is caused by reduced vasodilation of the venular portion of HMCB due to reduced hypoxia of tissues.

Conclusion: correction of DM with exenatide results in slow development of microangiopathy in the pancreas islets.

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AUTO NOSODES FROM APOPTOTIC CELLS OF THE BUCCAL EPITHELIUM

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The objective of the study is elaboration of methods of selective cytological analysis while selecting cells of the buccal epithelium to

prepare auto nosodes. Nowadays auto nosodes are used in homeopathy, bioresonance therapy and other methods of treatment. The purpose of use of auto nosodes is transmission of information to the body to intensify specific protective reactions of the body to a certain syndrome. There are many examples of auto nosodes efficacy in clinical cases when traditional therapy appeared to be ineffective. Unfortunately, all these cases are described in narrow specialized and not well-known sources, and scientific analysis of these factors is completely absent. The practical use of these medicines demonstrated that to analyze their efficacy it is necessary to make their production standard. A number of publications shows that morphological changes of the buccal epithelium correlate with severity and duration of many diseases. Our previous studies showed that apoptotic cells of the buccal epithelium are most suitable to prepare auto nosodes. The main question defining the quality of auto nosodes is the question of apoptosis stage, on which cellular material should be taken. In the available literature we have not found the answer to the question, therefore, here we suggest our own description of evolution of the morphological changes. In the process of apoptosis the following stages can be differentiated which coincide with the generally excepted ones: 1. Contraction and "roughness" of the cytoplasm. 2. Linear and dark stripes in different directions found in the cytoplasm. 3. Progressive decrease of the nucleus size. 4. Disappearance of the nucleolus. 5. Accumulation of chromatin near the nuclear membrane. 6. Progressive consolidation of the nucleus changes of its colour. 7. Cariorexis. 8. Changes of the cellular shapes with the formation of

evaginations. 9. Intracellular microfragmentation of cytoplasmatic membrane (budding of the cytoplasm). 10. Intracellular apoptotic bodies. 11. Mixing of intracellular apoptotic bodies with the remains of the nucleus. 12. Accumulation of intracellular apoptotic bodies. 13. Separation of a cell from the surrounding cells (isolation of the cell). 14. Appearance of extracellular apoptotic bodies. 15. Apoptotic invasion of the surrounding cells.

While selecting cells there was such an impression that the process is of an invasive character, therefore, on this period of the study cells were taken for auto nosodes on this stage (auto nosodes-15). It is reasonable to conduct further comparative study of the efficacy of auto nosodes-15 and other auto nosodes according to the given stages. Special attention should be paid to the analysis of correlation between these criteria and clinical signs of the diseases. Such an approach is quite objective to reflect the dynamics of the process, which is hardly possible under conditions of using molecular-genetic markers, at least nowadays.

Therefore, the use of a selective cytological analysis of the buccal epitheliocytes according to the elaborated criteria enables to control objectively the course of treatment, to determine potential of auto nodose and prognosticate the result of treatment with rather high degree of reliability.

On this basis, we can suggest that classical notions concerning apoptosis should be added. Apoptosis is a basic universal mechanism of a real therapy of all the pathological conditions. It is an attempt of the body to create and accumulate in a considerable amount of the

substance necessary for the compensation of disturbed functions. It is this fact that defines the number of dying cells, and the problem of malignization should be reviewed from this position. If apoptosis does not solve the problem, malignization occurs.

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MORPHOLOGICAL CRITERIA OF TOXIC ACTION OF CdS NANOPARTICLES AND $CdCl_2$ SALT

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The progress of scientific-technological approach promoted appearance of such phenomenon as nanotechnologies, which active development enabled to introduce cardinal changes into many spheres of human life.

Nanoparticles (NP) are those with the size from 1 to 100 nanometers which corresponds to the size of atoms. NP possess unique properties: very high curvature of their surfaces, great specific surface, big excessive free superficial energy.

Heavy metals belong to the most dangerous pollutants of industrial areas and environment in the whole. Cadmium occupies one of the leading places among all the heavy metals. According to WHO data, it is referred to global and dangerous environmental pollutants. Its compounds are characterized by the ability to accumulate and slow elimination from the body which can be a cause of many diseases.

Under the effect of cadmium nanoparticles functioning of the