

28 persons (15 men of $50,5 \pm 3,6$ years old and 13 women $56,9 \pm 2,5$ years old) having suffered from insulin-dependent D of 2 type for $8,6 \pm 1,9$ and $12,2 \pm 2,9$ years accordingly, were examined; their hematologic indexes being studied and the erythromorphometry being carried out.

The hematologic indexes of clinically healthy men and women didn't exceed the bounds of the conditional physiological norm. The comparative analysis revealed a higher value of erythrocytes in a blood volume unit by 14, 7%, hemoglobin – by 14, 8%, hematocrit index – by 14, 6% ($p < 0,05$) at the men. The mean cell value and hemoglobin concentration didn't have authentic differences, but the tendency to higher indexes at the men was marked. Comparing erythromorphometric characteristics of healthy patients we noted that the average diameter (by 6, 3%) and average area of a cell surface (by 5, 8%) were more and the thickness index (by 11, 1%) less at the men; the mean cell volume of red blood cells didn't have authentic differences.

The diabetic patients' red blood indexes were in the bounds of the norm as well, but compared to the control group a more lower value of total and mean cell hemoglobin by 11, 9 and 7, 6, and 17, 8 and 8, 0 % at the men and the women accordingly. The fundamental characteristic of an erythrocyte is volume: at the diabetic patients it was lower - $94,2 \pm 0,4$ and $84,3 \pm 2,34 \text{ мкм}^3$, and $94,3 \pm 0,9$ and $88,9 \pm 2,3 \text{ мкм}^3$ ($p < 0,01$) at the healthy and sick men and women accordingly. In the diabetic patients' groups the diameter-thickness ratio was authentically higher and the specific surface area was lower, the differences being graded more vividly at the women than at the men.

Conclusions:

- 1) blood of clinically healthy men contains more erythrocytes and hemoglobin in a blood unit volume than that of women, and it has a more higher hematocrit index;
- 2) sex specificity of the main hematologic indexes retains at the diabetic patients;
- 3) specific and average surface areas and the average volume of an erythrocyte is lower, but diameter-thickness ratio is higher at the patients;
- 4) geometric profile changes of red blood cells decreases their contribution in normal

functioning of homeostatic systems of a body at diabetes;

5) hematologic profile and morphometric characteristics' changes of erythrocytes at diabetic patients are valued as adaptive processes aimed at blood flow properties perfecting and reducing tissue hypoxia in erythron system.

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ESTIMATION OF X-RAY INFLUENCE ON SPINAL GANGLIA NEURONS

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Practically all the population of all countries in the world is exposed to X-ray effect when being diagnosed or taking remedial measures during the life. In this respect there is a necessity to study the changes, including biochemical parameters, taking place in sensory neurons of spinal ganglia when X-rayed.

The research was carried out on 81 mature guinea-pig males, from which 51 were used in the experiment, and 30 served as the control. The experimental animals were exposed to single general irradiation (dosage – 5 Gy, filter – 0,5 mm SI, voltage – 180 kV, amperage – 10 mA, focal distance – 40 cm). Excluding the animals from the experiment and sampling the materials were done immediately, in 6 hours, on the 1st, 5th, 10th, 25th and 60th days after finishing the exposure. Spinal ganglia were taken from different parts of spinal cord (cervical, thoracic, and lumbar). The LDH activity level in the cytoplasm of sensory neurons of spinal ganglia was subjected to the histoenzymologic research. The findings were statistically treated.

Immediately after finishing X-raying the increase of the LDH activity level in the spinal ganglia neurons of all parts of the spinal cord was marked; it being: 110,5% in the cervical part, 123,9% in the thoracic part, 109,4% in the lumbar part of the spinal cord, from the basal value ($P < 0,05$). In the following periods the LDH activity keeps retaining increased being, in

particular, 128,8% in the spinal ganglia of the cervical part, 107,8% - of the thoracic part and 104,6% - of the lumbar part of the spinal cord, from the control value ($P < 0,05$) on the 5th day. By the end of the observation period (60th day) the retaining of increased LDH activity level is marked, being 154,1% in the neurons of the cervical part, 143,8% - in the thoracic part and 122,3% - in the lumbar part of the spinal cord, from the basal value ($P < 0,05$), that testifies a significant change of LDH activity in the specified cells when being exposed to X-rays.

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INFLUENCE OF MICROVAVES ON EPIDERMAL SKIN CELLS

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During the last years in everyday life and industry as well as while taking diagnostic remedial measures, sources of SHF radiation (microwaves) get more and more popularity. In this respect the necessity to study biochemical changes in epidermal skin cells, including basaliocytes, while being affected with microwaves, develops.

The research was carried out on 65 mature guinea-pig males. The animals were exposed to the effect of microwaves of thermal intensity (length of wave - 12,6 cm, power flow density (PFD) – 60 mW/cm², exposure time – 10 min). The exposure happened at one and the same time – from 10 to 11 a.m.. Excluding the animals from the experiment and sampling the materials were done immediately, in 6 hours, on the 1st, 5th, 10th, 25th and 60th days after finishing the effect of the specified factor. The flaps of skin were taken from different areas (head (cheek), back, stomach). The succinate dehydrogenase (SDG) and nicotinamide adenine dinucleotide 2 (NADN2) activities in the cytoplasm of the epidermal basal layer were subjected to the histoenzymologic research. The findings were statistically treated with the use of Student criterion.

Immediately after the microwave exposure the SDG and NADN2 activity decrease is marked, being: in the skin of head - 92,3% (98,0%), back - 90,8% (95,5%), stomach - 88,3% (97,7%), from the basal value accordingly ($P < 0,05$). Later on the SDG and NADN2 activities keep on decreasing, achieving the minimum on the 5th day. Thus, in particular, the SDG activity on the defined term is: in the skin of head - 90,0%, back - 86,4%, stomach - 78,2% ($P < 0,05$). In the following periods the SDG and NADN2 activities in basaliocytes increase, reaching the initial showings in most of the flaps on the 60th day, the SDG activity level in basal skin cells of back and stomach being 97,3% and 95,1% from the control level accordingly ($P < 0,05$). The findings received testify significant changes of the SDG and NADN2 activities in the cytoplasm of the epidermal basal skin cells when being exposed to microwaves.

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SIGNIFICANCE OF THE β -2-ADRENERGIC RECEPTOR (β -2AR) POLYMORPHISM IN ASTHMA AND ATOPY

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Last years many researchers specify growth of allergic diseases, resistant to traditional methods of therapy. From the earliest stages of occurrence of the doctrine about an allergy allergic reaction consider as reaction of an inflammation. Complexity of process will be, that attributes of an inflammation are reflection of a mobile combination of effects of the various cells which are taking place in a different functional condition, different intermediaries (mediators), having different concentration and diffusion characteristics. Atopy is wide and multiplane pathological process. The estimation of this pathological process from positions of the general pathology means the analysis of the reasons and the general laws of development atopy. Discussion at a modern level of the theory