

paracortical zone decreased in both experimental groups.

The immunohistochemical staining for the CD8 demonstrated that the immunoreactive cells were concentrated in the paracortical zone of the lymph nodes and were scanty in the mantle zone of the lymphoid nodules and in the medullary cords. After stress exposure the number of immunopositive cells in the paracortical zone decreased while single immunoreactive cells were present in the medullary cords and in the cortex of the lymph nodes.

The immunohistochemical staining for CD20 exhibited accumulation of the immunopositive cells in the lymphatic follicles being less densely distributed in the medullary cords of the lymph nodes.

Image analysis demonstrated that the volume density of the CD8+ immunoreactive cells was significantly reduced in the weaning and infant ( $p < 0,01$ ) age groups of the experimental animals compared to the age-matched control rats, while the volume density of the CD20+ immunoreactive cells was significantly reduced in the weaning ( $p < 0,001$ ) and infant ( $p < 0,05$ ) age groups accordingly with a different level of significance.

All these changes were accompanied by a significant reduction of the body ( $p < 0,05$ ), thymus ( $p < 0,001$  and  $p < 0,01$ ) and spleen ( $p < 0,01$  and  $p < 0,05$ ) mass in weaning and infant experimental animals accordingly.

The results of the investigation revealed considerable immunosuppressive changes in the lymphoid organs of the growing rats demonstrating prominent immunomodulation in the T-zones of the inguinal lymph nodes of both age groups of experimental animals and more severe changes in the B-zones of the lymph nodes of the junior animals of the present study. These findings allow to develop age-related strategies for the prophylaxis of the stress-associated immunosuppressive changes in the growing body.

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#### **HEMATOLOGIC STATE OF ELDERLY DIABETES PATIENTS AGAINST METABOLIC DISORDERS**

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The purpose of the work is to study the hematologic state and geometrical profile of blood cells against the background of metabolic disorders in elderly diabetes patients.

The blood of 68 II type diabetes (D-2) patients with concomitant metabolic disorders (Sland E., 2005) served as the subject of the investigation; among them

37 women and 31 men having got insulin; the average age -  $63 \pm 0,7$ , the disease duration -  $15 \pm 1,0$  years. The control group was made up of 44 donors matching in sex and age without carbohydrate metabolism disorders.

The number of erythrocytes and leukocytes was calculated in blood, the concentration of hemoglobin, glucose, total protein and lipidic spectrum were defined by the unified methods accepted in the clinical hematology. The number of activated lymphocytes (Frolov A.K. and coauthors, 1990) as predictors of the pancreatic gland beta-cells destruction and diabetic angiopathies and negative disease course manifestation (Zhuk Ye.A., Galenok V.A., 1999) was defined in blood films; the white blood differential was derived. The video-registration and computer analysis of blood cells was carried out with the help of an image analyzer with the "Video-Test" software support. The mean corpuscular volume, membrane surface area and also nucleocytoplasmic index, leukocytic intoxication index (LII) and allergization index (AI) were calculated.

The basic hematologic factors (number of erythrocytes, leukocytes and total hemoglobin concentration) in all the examinees stayed within the physiological standard, but within the formed groups the number of erythrocytes and leukocytes in men is higher than that in women. In the D-2 patients there are fewer erythrocytes and more leukocytes than in the control group persons.

Hyperglycemia was detected in all the patients under the insulin therapy pressure. The glucose concentration in men's blood made  $10,4 \pm 0,4$ , in women -  $9,9 \pm 0,3$   $\text{mmol} \cdot \text{l}^{-1}$ , that is authentically higher than in the donors of the control group. Under the conditions of glycemia decompensation the geometrical profile of erythrocytes and lymphocytes was characterized by an authentic increase of the mean diameter, membrane surface area and mean corpuscular volume. The specific surface area of erythrocytes (S/V) in men is higher than that in women; this dependence remained unchanged in D-2 patients. On the evidence of scientific literature the specific surface area increase is in close correlation relationship with the ability of erythrocytes to aggregation: it intensifies with the increase of lipids in blood (Katyukhin L.N., 2003). As our research showed, the red blood cells' geometrical profile changes were in close relationship with the concentration of glucose and atherogenic lipids in blood: the increase of cholesterol, triacylglycerols and low-density lipoproteins made 77 and 75; 44 and 34; 26 and 39% in men and women accordingly.

In the persons with metabolic disorders an authentic decrease of lymphocytic activated forms percentage was found out, maybe owing to cells' receptor apparatus disturbance (Kurayeva T. L. and coauthors, 2003). The increase of AI and LII reflect the presence of an allergic process and endogenous intoxication of mean severity.

Thus, in the D-2 patients with the concomitant metabolic disorders the mean diameter, mean corpuscular volume, membrane surface area of erythrocytes and lymphocytes is increased, the right neutrophilous shift is registered, the percentage of monocytes and lymphocytic activated forms is decreased against the increase of endogenous intoxication and allergization of the body.

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**DEVELOPMENT OF ENDOTHELIAL  
DYSFUNCTION IN SYSTEM MOTHER-  
PLACENTA-FETUS AT HYPERTENSIVE  
DISEASE IN GRAVIDAE**

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The hypertensive disease takes one of the leading places among the diseases of gravidae. The frequency of this pathology during pregnancy makes 4-9%. The hypertensive disease as a systemic vascular pathology reflects negatively on the state of uterine-placental circulation, that, in its turn, results in the placental insufficiency and prenatal trouble of the fetus. It conditions the high indexes of perinatal disease incidence and death rate. The purpose of our investigation has been the study and comparison of functional parameters' states with the state of uterine muscle and placenta vascular layer at the hypertensive disease using innovation research methods.

There were 53 gravidae suffering from cardiovascular hypertension examined under the auspice of the Regional Labor House of Belgorod (2005-2008). 20 persons made the control group. Together with the conventional research methods a system monitoring of the arterial tension was carried out. The sampling of the material for photo- and electronic (scanning and transmission) microscopical investigation of myometrium and endometrium and placenta was carried out post partum. The samples were scanned and photographed in the optical microscope "TOPIC-T" CETI, scanning microscope FE-1 Quata 200 3D, transmission microscope JKM.

We testified that in 47% the gravidae had been aged 18-25 years old, in 54% - from 25 to 35 years old. 46% of the women were going to have the first baby. The genetic burden was detected in 28 gravidae. 20 women were overweight. The development of late toxicosis occurred in 37 women, among who the I degree nephropathy was registered in 15, II degree – in 2, III degree – in 3 women. The diagnosis of cardiovascular hypertension was established before the

pregnancy in 36 and during the pregnancy – in 17 of them.

The vascular affections developed at the hypertensive disease find their sequel in changing the blood stream in the endometrium and placenta, that is most acutely manifested in the combination with gestosis. The given changes are detected in the form of sclerosis, fibrinoid necrosis, disturbed circulation (repletion, stasis, hemorrhages, thrombosis) development and fine structures destruction. All this leads to the development of uterine-fetoplacental circulatory collapse and is attended by extremely stressful state of the fetus homeostasis.

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**ANALYSIS OF RELAPSES AND RE-  
OPERATIONS LASER  
DACRYOCYSTORHINOSTOMY**

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**Topicality**

An unsuccessful outcome of dacryocystorhinostomy (DCRS) is usually conditioned by cicatrization of the newly formed lacrimal outflow tract. A variety of causes, such as an underestimate of examination data, wrong choice of surgical approach, surgical interference technique defects, nonobservance of recommended treatment by patients and their wrong aftercare, promotes it. However, the prime causes of ill lucks, in the estimation of most dacryo-surgeons, are the operation technology imperfection and adverse action of the concomitant rhino-pathology. An active practical application of new DCRS methods, including the transcanalicular approach and use of laser-endoscopic technology for the formation of inosculation, is going on. Compared to the external DCRS it provided certain advantages: traumatism and complications number reduction, operation technique simplification, cutaneous scar absence. However, according to our data, purulent dacryocystitis relapses often requiring reintervention occur in long terms after the transcanalicular laser endoscopic dacryocystorhinostomy (TLED) in 20% of the cases.

The investigation purpose – is to evaluate the efficiency of TLED reoperations at chronic purulent dacryocystitis, to carry out the disease relapses analysis and study the influence of the concomitant rhinopathology on their development.