



confirmed by the decrease of the index of leukocyte shift 39.87 %, the leukocyte index – 80.46 %, as well as a decrease in the ratio of lymphocytes and monocytes – 20.30 %; neutrophilic – lymphocytic coefficient – 47.13 %; the relation between neutrophils and monocytes –76.73 %; the correlation of agranulocytes and the rate of erythrocyte shedding – 82.23 % and the ratio of leukocytes and the rate of erythrocytes shedding – 46.5 %.

The increase of the value of the lymphocytic index 46.15 % and the lymphocytic granulocytic index 44.74 %, as well as the formation of a positive tendency of the immune system sensitivity increase to the agents of the infectious and inflammatory process 71.43 %, highlights the positive beginning of the formation of an adaptive specific protection, manifestations of which will be evident in 4-7 days. The use of immunotropic drugs for the activation of a specific immune response in patients with community-acquired pneumonia is discussed. The above cited shows that when examining the patient in the first stages of the development of hospitalized pneumonia in the active state there are factors and mechanisms of nonspecific protection, and the factors and mechanisms of specific immune protection begin to intensify to form the corresponding humoral and cellular immune response, depending on the taxonomic composition of the pathogen.

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ADAPTATIVE TENSION AND CELLULAR REACTIVITY LEVEL IN PATIENTS WITH PURULENT-NECROTIC PROCESSES OF SOFT TISSUES

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Purulent-necrotic diseases at the beginning of the XXI century remain an actual medical and social problem. Thus, during the last two decades, the share of this group of diseases remains rather high and has no positive tendency to decrease. The problem of hospital purulent-necrotic processes, occurring in hospitals of various profiles, where the treatment of patients with acquired immunodeficiency status is often carried out, has the particular significance.

The purpose of this research is to study the level of adaptive tension and cellular reactivity of the body of patients with purulent-necrotic processes of the soft tissues by immune-hematological indices and coefficients.

An immuno-hematological examination was conducted in 29 patients with purulent-necrotic processes of the soft tissues. The control group is represented by 14 practically healthy people of the corresponding age. Venous blood, studied on a hematological analyzer of the HB type, was taken for the research.

The blood system plays a leading role in ensuring the adaptive activity of the body. This role is determined, first of all, by the function of the transport of nutrients and oxygen - the main sources of energy for cells and tissues. The blood system is also one of the most important carriers of information concerning processes occurring on the level of tissue structures, and immunocompetent peripheral blood cells are very sensitive to changes in the external environment and internal state (illness, immunodeficiency state, etc.). Thus, changing blood parameters can expand or restrict the adaptive capacity of the body. Study of the level of the adaptive tension of the patients' body with purulent-necrotic processes of the soft tissues have shown that the adaptive index in patients increases 9.84 %, which confirms the positive prognosis for the clinical course of the disease. At the same time, in 3 patients (10.34 %) the value of the adaptation index is in the stress zone. Just in these patients the clinical course of the disease has a torpid course and transformation into a chronic process is possible.

Adaptive tension is closely related to the cell reactivity of the organism. Investigation of immune-hematologic indices, characterizing cell reactivity, also showed a significant increase. So, the leukocyte index of intoxication for Y.Ya. Calf-Caliph 49.02 % ($p<0.05$) for B.A. Rais - 94.57 %, the nuclear index of the degree of endotoxiosis - 4.11 times, the total leukocyte index of intoxication -70.45 % ($p<0.01$), as well as the overall indicator of intoxication - 39.74 % ($p<0.05$) showed the significant increase. Issues of use of different methods of treatment are discussed.

Thus, the level of non-specific adaptive tension and cellular reactivity of the patient's body increases in patients with purulent-necrotic processes of the soft tissues that must be taken into account when elaborating the methods of therapy for such patients. The questions concerning different methods of treatment are discussed.

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CELLULAR LINK OF NONSPECIFIC ANTI-INFECTIOUS REACTIVITY OF THE PATIENT'S BODY TO DIFFUSE GOITER

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The purpose of the study was to investigate the absolute and relative numbers of leukocytes, O-lymphocytes, natural killers (NK CD3+, CD16-), natural regulatory cells (NRC CD3+, CD25+), neutrophil granulocytes prepared for apoptosis with CD95+, phagocytic activity of neutrophil granulocytes, phagocytic peripheral blood capacity patients with diffuse toxic goiter.

Factors and mechanisms of non-specific reactivity of the organism are functioning in the human body continuously, causing in case of microbial or other destabilizing effect the formation of an inflammatory reaction that is similar to mechanism to different antigenic characteristics. The development of an infectious and inflammatory reaction contributes to the formation of specific immune response that can be considered as the development of the following, more adequate line of defense against genetically foreign substances, microorganisms, cells and other antigens.



Nonspecific anti-infective protection and adaptive immunity are implemented by the interaction of immune-competent cells and humoral factors that lead to the formation of the cellular and humoral link of systemic immunity.

In patients with diffuse toxic goiter, the absolute amount of O-lymphocytes is increased in 3.13 times, the relative - in 2.21 times. But the main subpopulation of O-lymphocytes - the relative number of natural killers (NK CD3⁻, CD16⁺) is reduced by 2.18 times, the absolute amount in the peripheral blood is reduced by 2.2 times. Based on the results of the study in patients with diffuse toxic goiter, the activity of the killing reactivity of natural killers in relation to pathogenic and opportunistic microorganisms, xenogenic and allogenic cells and to their own pathologically altered or over-active cells has been reduced. It is important to reduce twice the absolute amount of natural regulatory cells (CD3⁺, CD25⁺), which can lead to limiting suppressive function and disruption of the cellular immune response. In addition to relative amount (2.06 times) of these regulatory cells decreases, which confirms the conclusion about the deterioration of the suppressive link in the immune response.

The phagocytic activity of polymorphonuclear leukocytes in patients with diffuse toxic goitre reduced by 39.81 % and the phagocytic number by 47.06 %, which is indicative of disorders of phagocytosis at its first stages, and this is confirmed by the study of the migration activity of neutrophil granulocytes, which is also lowered 59.33 %. The mentioned above results in the reduction of phagocytic capacity of peripheral blood by 87.5 % due to the decrease in the number of active phagocytic cells by 92.86 %. From our point of view, it is possible to be substantiated by the accelerated (by 59.68 %) apoptosis of neutrophil granulocytes.

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MICROECOLOGY OF MICROBIAL CONTENTS OF THE COLON CAVITY OF ALBINO RATS WITH EXPERIMENTAL THYROTOXICOSIS

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Production of the intestinal microflora of numerous biologically active compounds and their metabolites, interaction with the immune and other systems, actualize the issues of studying of its changes in various diseases, one of which is thyrotoxicosis. So, the objective of this study was to determine the degree of microbioma disorder in the contents of the large intestine cavity of white rats with experimental thyrotoxicosis (ET).

Studies were carried out on 25 mature male albino rats (15 – control group, 10 – research group). ET was simulated by intragastric administration of L-thyroxine for 14 days. After laparotomy was performed, a section (1.5 - 2 cm) of the large intestine with its contents was taken. To the content was added a sterile 0.9 % NaCl solution with further preparation of a series of ten-fold dilutions with a concentration of the initial mixture of 10⁻² to 10⁻¹¹. From each test tube 0.01 ml was inoculated on solid nutrient media with isolation and identification of microorganisms by morphological, tinctorial, cultural and biochemical features. To disclose the mechanisms of colonization of the pre-epithelial biofilm by microbes it was used an ecological method that give possibility to clarify the microbiological characteristic of the coexistence of the representatives of the association of "microorganism - microbial ecosystem" and the changes in the microecology of the cavity of the colon during destabilization of microbiocenosis in thyrotoxicosis.

It is shown that in animals with ET the main microbioma is represented by bacteria of the genus *Bifidobacterium*, *Lactobacillus*, *Bacteroides*, and also opportunistic *Enterobacteria* (*Escherichia*, *Proteus*, *Klebsiella*), *Peptococcus*, *Staphylococci* and *Clostridia*. This is accompanied by the elimination from biotope of bacteria of the genus *Peptostreptococcus*, *Enterococcus* and the contamination of *K. oxytoca* and *Staphylococci*. There was a pronounced deficit of *Bifidobacteria* by 42.81 %, *Lactobacillus* – by 22.57 %, normal intestinal bacillus – by 16.48 %. The deficiency of *Bifidobacteria* and *Lactobacilli* in the colon microbiocenosis of animals with thyrotoxicosis contributes to the growth of the population level of opportunistic *Enterobacteria*: *Proteus* by 16.57 %, *Peptococci* – by 2.13 times, *Clostridia* – by 2.06 times, as well as contamination of the colon with *K. oxytoca* and *Staphylococci*, reaching a high population level, which promotes the formation of an immunodeficiency state in a macroorganism. By the population level, the coefficient of quantitative dominance and the significance factor, the leading place is occupied by *Bacteroids*, role of which is increased by 21.72 %, and *Lactobacillus* – decreases by 39.31 %, *Bifidobacteria* – decreases by 51.48 % and *E. coli* – decreases by 57.49 %. In this case, the role of *Peptococcus* increases by 3.37 times, *Clostridia* – by 4.53 times, and by 72.93 % by the number of *Proteus*.

It has been shown that ET in albino rats affects microecological interactions in the "macroorganism - microbial ecosystem", which may negatively affect the functional complex of processes performed by the intestinal microbial. Under conditions of ET, there is an elimination of bacteria of the genus *Bifidobacterium*, *Lactobacillus*, *Peptostreptococcus*, *Enterococcus* and contamination of the biotope with conditionally pathogenic *Enterobacteria* (*Proteus*, *Klebsiella*) and *Staphylococci*. Deficiency of *Bifidobacteria* and *Lactobacilli* leads to changes in taxonomic composition and formation of dysbiosis of II and III stage.