superficial layer. In this case a great number of nerves, which are situated either along the vessels, or independently, can be determined on the background of the dense vasculature. The latter ones are like trunks of different sizes which cross major and minute vessels in different directions. The nerve plexus of the pericardium situated in the superficial, friable, fibrotic layer sends a great amount of branches into the deep collagenous elastic layer where separate nerve trunks of different diameter are located. The intraorganic nerve plexus of the pericardium, which is in the friable fibrotic layer, and separate nerve tracts and fibers located in the collagenous elastic layer of the pericardium also display some reactivity conditions in case of difficulty of the coronary blood circulation owing to atherosclerotic changes. Reactive changes are found in the thick medullated fibers. The nerve fibers in the deep collagenous elastic layer form free nerve endings which branch according to cluster type. In the specimens, which were characterized by atherosclerotic changes, they also displayed increased argentophilic nature. In some specimens sharp induration of free branching endings was detected.

Results. These reactive changes, which are not so apparent on the side of the nerve apparatus of the pericardium, prove reversibility of this process that takes place as a result of oxygen deficiency of the tissues.

Conclusion. Therefore on the ground of the data we have obtained, it is possible to come to a conclusion that the nerve apparatus undergoes reactive condition. In this case induration of the nerve fibers and its endings, increased argentophilic nature of the medullated fibers, myelin sheath thickening are observed.

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HEMOPOIETIC GROWTH FACTORS

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Introducrion. Generally hemopoiesis is controlled by a number of different growth factors produced by various cell types. Each factor acts on specific stem cells, progenitor cells, and precursor cells, generally inducing rapid mitosis, differentiation, or both. Some of these growth factors also promote the functioning of mature blood cells. Most hemopoietic growth factors are glycoproteins.

Results. Three ways are used to bring growth factors to their target cells: 1) transport via the blood (as endocrine hormones); 2) secretion by stromal cells of the bone marrow near the hemopoietic cells (as paracrine hormones); 3) direct cell-to-cell contact (as surface signaling molecules). Certain growth factors — principally, steel factor (also known as stem cell factor), granulocyte-macrophage colony-stimulating factor (GM-CSF) and two interleukins (IL-3 and IL-7) — stimulate proliferation of pluripotential and multipotential stem cells, thus maintaining their populations. Additional cytokines, such as granulocyte colony-stimulating factor (G-CSF), monocyte colony-stimulating factor (M-CSF), IL-2, IL-5, IL-6, IL-11, IL-12, macrophage inhibitory protein-α (MIP-α), and erythropoietin, are strongly believed to be responsible for the mobilization and differentiation of these cells into unipotential progenitor cells. Colony-stimulating factors (CSFs) are also responsible for the stimulation of cell division and for the differentiation of unipotential cells of the granulocytic and monocytic series. Erythropoietin activates cells of the erythrocytic series, whereas thrombopoietin stimulates platelet production. Steel factor (stem cell factor), which, as discussed previously, acts on pluripotential, multipotential, and unipotential stem cells, is produced by stromal cells of the bone marrow and is inserted into their cell

membranes. Stem cells must come in contact with these stromal cells before they can become mitotically active. It is believed that hemopoiesis cannot occur without the presence of cells that express stem cell factors, which is why postnatal blood cell formation is restricted to the bone marrow (and liver and spleen, if necessary). Some hemopoietic cells are programmed to die by undergoing apoptosis unless they come into contact with growth factors. Such dying cells display clumping of the chromatin in their shrunken nuclei and a dense, granular-appearing cytoplasm. On their cell surface, they express specific macromolecules that are recognized by receptors of the macrophage plasma membrane. These phagocytic cells engulf and destroy the apoptotic cells.

Conclusion. It has been suggested that there are factors responsible for the release of mature (and almost mature) blood cells from the marrow. These proposed factors have not yet been characterized completely, but they include interleukins, CSF, and steel factor.

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THE STUDY OF NEUTROPHILIC PHAGOCYTIC ACTIVITY ON THE ASSOCIATION OF CANDIDA ALBICANS AND STAPHYLOCOCCUS AUREU

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Introduction. Pyoinflammatory infections caused by association of C. albicans and S.aureus are topical issue for study by researchers from different countries, due to the fact that in 27 % of cases they can become a cause of nosocomial infections and in 20 % cause acute puerperal mastitis in women. Today mechanisms of the immune response in polymicrobial infections are not fully understood. Sometimes the phagocytic activity against fungi C.albicans is complicated because of the size of these cells and the presence of hyphae elements. Furthermore, the microbial cells of S.aureus are capable of synthesizing substances that inhibit the phagocytic reaction.

Aim: to examine the phagocytic activity of neutrophils on the association C.albicans and S.aureus in experiments in vitro.

Materials and methods: the study was conducted on clinical strains C.albicans and S.aureus, excreted from patients with pyoinflammatory diseases, as the control group the reference strains were used. The phagocytic activity was studied using standard methods. After incubating with citrated blood with agar cultures the mixture was centrifuged, the lymphocyte surface layer applied onto a glass slide was selected, stained with Romanovsky-Giemsa and the microscopic investigation was made.

Results: basing on this work it was found that the phagocytic activity of immune cells decreased concerning clinical strains, compared with the reference. Phagocytic index for clinical strains of S.aureus was 3,2 ± 0,05, for reference strains - 4,66 ± 0,37. Indicators decreased phagocytic activity and clinical strains C.albicans , phagocytic index was - 3,74 ± 0,17, in reference strains - 4,14 ± 0,21. The most aggressive properties showed microorganisms in the association: phagocytic index for clinical strains C.albicans + S.aureus was 3,03 ± 0,07, for reference - 3,36 ± 0,27.

Conclusions: Conducted researches have shown that the most pathogenic properties are manifested in clinical strains of S.aureus and C.albicans association + - phagocytic index was 3,03 ± 0,07. It is possible that this is a result of receptors blockade on the phagocyte