LYSOZYME – AN ENZYME MURAMIDASE: CHEMICAL STRUCTURE, PHARMACOLOGICAL EFFECTS, CLINICAL APPLICATIONS

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Introduction. One of the main regulators and factors of nonspecific protection of the oral cavity, providing support homeostasis is the enzyme lysozyme, which is a universal factor of nonspecific antibiotic, antiviral and antitoxic resistance in the body. Lysozyme is involved in the regulation of mitotic and metabolic activity of cells, induction of synthesis of immunocompetent cells mediators such as interferons, interleukins, tumor necrosis factor, etc. The regulation of proteolysis of plasma - correction activity granulocyte elastase inhibitors and proteolysis. Lysozyme contains in saliva, tears, amniotic fluid, milk, sputum, duodenal and gastric juice and organs - heart, spleen, lymph nodes, kidneys, liver, lungs, cartilage, skeletal muscle , brain, placenta, pancreas and thyroid glands. The greatest amount of lysozyme contained in those secretions and tissues that are constantly in contact with microorganisms (saliva, tears). From a chemical point of view lysozyme is mukopeptyd-hlikohidrolaza, mukopolisaharyd enzyme action. Enzymatic properties of lysozyme manifested in the ability to cleave glycosidic bonds poliaminostructure bacterial peptidoglycans by hydrolysis of the beta glycoside bonds between residues N-atsetylmuramic acid and N-acetylglucosamyne, which constitute 50% of the cell wall of gram-positive bacteria, gram-negative and 10%, which makes it antimicrobial action. Accordingly, gram-positive bacteria more sensitive to lysozyme than gram-negative. In antimicrobial enzyme reveals regenerating and analgesic effect. Analgesic properties used in the treatment of peptic ulcers. In the treatment of burns with lysozyme there is a significant acceleration of the release of necrotic tissue mass, stimulation of granulation and epithelialization of wounds. With its anti-inflammatory action of lysozyme is widely used in the treatment of ENT diseases.

Conclusions: Underestimate the role of lysozyme in the body and it is very difficult to exogenous adjustment and creating drugs based on it are important issues. Preparations based on lysozyme have a greater affinity with the body compared with synthetic drugs, which are used in antibacterial and anti-inflammatory treatment of diseases of oral mucosa and periodontal tissue. Therefore, the problem of contemporary pharmacologists - the creation and study of drugs based on natural components such as lysozyme, which has a wide range of pharmacological effects, and selection of the dosage form for optimal bioavailability of the active ingredient in certain pathologies.