

ENZYBIOTICS: A NEW APPROACH TO ANTIMICROBIAL THERAPY

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Introduction. The total spread of antibiotic-resistant clinical strains of bacterial pathogens requires an intensification of the search for new ways to improve the effectiveness of etiotropic therapy of modern infections. Modern medicine is increasingly using the achievements of biological and medical chemistry, and enzymology in particular. One of the topical areas for improving antimicrobial therapy is the use of enzyme preparations.

Aim. Study of scientific literature on the biological, medical and pharmaceutical aspects of the use of enzymes in medical practice.

Materials and methods. Various information sources of Internet system, interlibrary loan and Kharkiv scientific library were used. An analysis of the literature of the history of the issue and the results of modern developments of enzymes is carried out.

Results and conclusions. Preparations of proteolytic enzymes of plant and animal origin in the 60-70s of the last century were successfully used in purulent surgery, in the complex treatment of pulmonary tuberculosis

Along with antimicrobial agents, proteases are extremely effective in diseases of the respiratory tract due to their fibrinolytic and mucolytic effect. Research is developing on the use of lytic enzymes for the prevention and treatment of human and animal infectious diseases: laryngitis, bronchitis, pneumonia, adnexitis, salpingitis, metritis, parametritis.

There is evidence that proteases contribute to the healing of furuncles, carbuncles, deep abscesses and fistulas. The important role of lytic enzymes as immunity factors has been revealed.

Enzibiotics as a fundamentally different group of drugs than antibiotics, are of an enzymatic nature and have the ability to induce lysis of a microbial cell. A special group consists of phage-guided enzymes of bacteria. Enzymes induced by phages are not synthesized by bacteria in the absence of phage, their action is directed to the destruction of a specific polymeric skeleton of bacteria.

The real results of scientific developments in this direction are preparations: lysostaphin against *Staphylococcus aureus*; dispersin - with a broad spectrum of antibacterial action. The real disadvantage of enzyme preparations can be side effects at the cellular level associated with insufficient specificity of the biological effect of individual enzyme systems.