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ТЕЗИ/ABSTRACTS

1st International Congress

RATIONAL USE OF ANTIBIOTICS

І Міжнародний Конгрес

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— the ability to prescribe antibiotics not only after determining susceptibility to the drug of microorganisms isolated from biological material from a particular patient, but also on the basis of monitoring and analysis of previous results of bacteriological research and determination of antibiotic resistance;
— compliance with the protocols that allow to quickly detect, isolate and provide treatment for patients infected with antibiotic-resistant strains of bacteria, which, in turn, will help to prevent spread of infections in hospitals;
— implementation of a system that allows to monitor antibiotics use (choice of drug, dosage, route of administration, frequency of administration, number of courses), evaluate the results, and, based thereon, to generate appropriate guidelines, and concentrate resources for this purpose;
— completion of infectious control in cases of infections caused by multiresistant strains of bacteria and implementation of infection control principles;
— the approach to control the OPs, circulating among neonates in the dynamics of their hospital stay, provides an opportunity of monitoring microorganisms transmission routes and constitutes grounds for operational development of barriers and relevant disease control efforts in each particular situation. The development of reasonable measures is an efficient method for the prevention of purulent-septic diseases.

Keywords: antibiotic resistance, microbial monitoring, WHONET.

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Drug Resistance of Purulent-Inflammatory Diseases Pathogens in Children and Ways to Overcome it

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Background. Modern pathogenic microorganisms have pronounced drug resistance to antimicrobial drugs. This significantly reduces the effectiveness of treatment of purulent-inflammatory diseases in children. The stability of microorganisms is due to biofilm formation and various factors of aggression. Hence, scientific research is necessary to eliminate microbial resistance and increase effectiveness of antimicrobial therapy.

Purpose. The aim of the study was to investigate in the experiment daily biorhythms of pathogenic microbes relative to their correlation with the introduction of antimicrobial medicines.

Materials and methods. Such microorganisms as *St. aureus* and *E. coli* were taken in children with destructive pneumonia for the study of their daily biorhythms. The daily dynamics of such aggression factors as biofilm formation, DNA-activity of cultures, lecithinase activity, proteolytic and plasma-coagulase activity, hyaluronidase activity, daily dynamics of teichoic acids were investigated.

Results and discussion. The relationship between prescribing antimicrobial agents and the level of variability in drug resistance throughout the day was established by experimental clinical studies. The periods of increase and decrease in drug resistance levels were recorded.

The obtained results of scientific research allowed to propose a new concept of antimicrobial therapy (patent of Ukraine for invention No. 116487, March 26, 2013). According to this concept, it is necessary to change the time of administration of antimicrobial drugs so that their highest concentration coincides with the minimum production of aggression factors and the maximum sensitivity of microorganisms to antimicrobial agents.

Conclusions:

1. Pathogenic microbes show their resistance to antimicrobial drugs by production of biofilms and other factors of aggression.

2. Daily biorhythms of the production of aggression factors with periods of high and low levels of aggression in microbes were established.

3. The received results became a basis of recommendations concerning change of time of antimicrobial drugs administration during a day with the purpose of effective overcoming of drug resistance of microorganisms causing purulent inflammatory diseases in children.

Keywords: pathogenic microbes, drug resistance, daily biorhythms.

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Overcoming Antibiotic-Resistance of Nosocomial Microflora in Urological Department

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Background. Antibiotic resistance in urological hospitals remains an unresolved problem.

Purpose was to evaluate the dynamics of a local microbial landscape to provide a rational mode of empirical antibiotic therapy for complicated urinary tract infections (cUTI).