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CURRENT ASPECTS OF ANTIBIOTIC THERAPY IN PEDIATRIC PRACTICE

Abstract: Rational antibiotic therapy is the basis for effective treatment of bacterial infections in children. Antibacterial drugs are among the most prescribed drugs in pediatrics**.**

Keywords: Therapy, method, treatment, diagnosis.

INTRODUCTION

District pediatricians, otolaryngologists, pediatric surgeons and resuscitators, neonatologists and many other doctors working in the pediatric network prescribe antibiotics every day. The availability of a large arsenal of antibacterial drugs, on the one hand, expands the possibilities of treating various infections, and on the other hand, requires the clinician to be aware of numerous antibiotics and their properties, and to be able to navigate issues of microbiology, clinical pharmacology and other related disciplines.

MATERIALS AND METHODS

Problems of antibacterial therapy in children reflect the difficulties of its implementation in general and specific features in children. Anatomical and physiological features of the child's body significantly affect the prevalence of certain infections, their clinical manifestations and diagnostics. Physiological features of the child's body, leading to changes in the pharmacokinetics of drugs, can have a significant impact on the choice and dosage of anti-infective chemotherapy drugs. The use of some of them in pediatrics is prohibited or limited due to the risk of severe, often age-specific, adverse reactions.

RESULTS AND DISCUSSION

The greatest attention should be paid to the use of antibacterial drugs in newborns, especially premature infants, and children in the first 6 months of life, due to the immaturity of the liver enzymatic systems and the mechanisms of glomerular filtration of the kidneys, as well as changes in the distribution of drugs due to a larger volume of extracellular fluid. When prescribing drugs that have a high affinity for blood plasma proteins (sulfonamides, ceftriaxone), lower serum albumin concentrations in newborns and the associated risk of nuclear jaundice are important. Incorrect choice of drug or its doses, lack of monitoring of antibiotic concentrations in the blood can lead to severe complications of antibiotic therapy (for example, "gray syndrome" when using chloramphenicol). Microorganisms have a tropism for children - patients of a certain age. Thus, in the first three years of life, the leading causative agent of purulent meningitis is Haemophilus influenzae, and sepsis in newborns is caused by group B streptococcus. Children may have diseases that are not typical for adults. This applies not only to the so-called childhood infections (measles, mumps, rubella, etc.), but also to such diseases as acute otitis media, pneumonia caused by the RS virus or Clamydia trachomatis [1]. In addition to the general problems characteristic of the use of antibiotics in children in any country in the world, our country has specific features. They are due to the training of doctors, the level of development of clinical microbiology, the state of the pharmaceutical market, and many others.

The ideas of evidence-based medicine are little known to most pediatricians, which is compounded by insufficient knowledge of modern literature and language problems. Often, the basis of doctors' knowledge is not objective facts, but the opinions of authoritative specialists. Pharmaceutical companies, both foreign and domestic, make a significant contribution to the

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dissemination of unfounded, subjective ideas. A prospectus or reference book published by a company is often perceived with a greater degree of trust than a publication in an authoritative, internationally recognized journal. Domestic pediatrics is unfavorably distinguished from pediatric practice in a number of Western countries by the lack of clear instructions (or protocols) for the choice of antibiotics for various diseases in children, which hinders rational therapy. Sometimes the unjustified refusal of some pediatricians to use antibiotics in children (for example, in case of otitis, furunculosis, tonsillitis) competes with the aggressive tactics of antibiotic therapy of other doctors - unjustified prescription of antibacterial drugs from the first days of the child's life. A special category of errors is the unjustified use of antibiotics in situations where their prescription is not indicated. The most common error in outpatient practice is the prescription of antibacterial drugs for acute respiratory viral infections. Theoretically, most doctors know and understand the inappropriateness of antibacterial therapy for this pathology, but in practice, under the influence of various reasons (prevention of complications, early age, administrative regulations, etc.), antibacterial drugs are prescribed, and often inadequate courses of therapy are carried out or reduced doses are prescribed [2]. Despite the difficulties of decision-making in such situations, it is necessary to remember that antibacterial drugs do not affect the course of a viral infection and, therefore, their prescription for ARVI is not justified. And the supposed possibility of preventing bacterial complications of viral infections by prescribing antibacterial drugs is not confirmed in clinical practice [3]. In addition to the desire to “play it safe,” a pediatrician often prescribes an antibiotic under pressure from parents who are concerned about their child’s condition and want to cure him or her as soon as possible, thereby stimulating wider use of antibacterial drugs.

The latter is practically not absorbed in the gastrointestinal tract and is not able to prevent fungal superinfection of other localizations - the oral cavity, respiratory or urinary tract, genitals. It is widely believed that antibiotics suppress the immune system. There is no direct evidence of this. At the same time, according to a number of researchers, macrolides, for example, have immunomodulatory properties. Perhaps the greatest number of errors that occur in outpatient pediatric practice are associated with the choice of an antibacterial agent. Here, we can note the continued widespread use of co-trimoxazole and lincomycin, drugs to which a high level of resistance has been observed in S. pneumoniae and H. influenzae, the main causative agents of bacterial respiratory tract infections, and E. Coli, the causative agent of urinary tract infections in outpatient settings [4].

CONCLUSION

Optimization of antibacterial therapy in pediatrics, the use of more effective antimicrobial drugs and, at the same time, the introduction of more gentle and safe treatment regimens for children - these tasks can be successfully solved only in conditions of close interaction between health authorities, specialists in the field of antimicrobial therapy and clinical pharmacologists with chief physicians, heads of pediatric departments and pediatricians.

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