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OPTIMIZATION OF THE DIAGNOSIS OF COMMUNITY-ACQUIRED PNEUMONIA IN YOUNG CHILDREN AT THE PREHOSPITAL STAGE

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Annotation: The results of a study of the nature and effectiveness of antibiotic therapy at the outpatient and hospital stages for acute pneumonia in Andijan children are presented. The most common mistakes in prescribing antibiotics at the prehospital stage were identified, and antibiotic therapy for community-acquired pneumonia in the hospital was analyzed. The effectiveness of therapy in a hospital setting with cephalosporins of II-III generations and a combination of cephalosporins of the III generation with macrolides was noted.
Keywords: Children, acute pneumonia, treatment, antibiotic therapy.

INTRODUCTION

In community-acquired pneumonia, despite the high effectiveness of treatment with antibacterial drugs, remain among the 10 most important causes of death in economically developed countries. According to some researchers, the mortality rate of children from community-acquired pneumonia averages 13.1 per 100,000 children. The highest rates are observed among young children, as well as patients with defects in anti-infective protection [1].

MATERIALS AND METHODS

At present, the efforts of specialists from various countries are aimed at improving the quality of treatment of children with infectious diseases of the respiratory system, overcoming antibiotic resistance of causally significant pathogens, finding ways to reduce the need for hospitalization of patients with community-acquired pneumonia, and reduce the duration of hospitalization in case of non-hospital pneumonia. Necessity, as well as prevention of complications of bronchopulmonary processes.

Rational antibiotic therapy is a decisive condition for the treatment of community-acquired pneumonia, which determines the nature of the course of the disease, its duration and the degree of completion of the inflammatory process. In the vast majority of patients, the choice of the starting antibiotic is carried out empirically, and drugs that are available at the hospital at the time of treatment are usually used. The forced empirical approach to treatment is associated with a number of factors: the lack of the possibility of an adequate microbiological study in most outpatient medical institutions, the duration of bacteriological identification of the pathogen and determination of its sensitivity to antibiotics (3–5 days, and in the case of “atypical” pathogens, and more), the impossibility of obtaining biological material for seeding and bacterioscopy (in the absence of cough or sputum at the onset of the disease) [2].

RESULTS AND DISCUSSION

When conducting complex microbiological and immunoserological studies, pneumococcal infection (isolated and in association) was documented in 66.1% of patients. A significantly smaller etiological role was played by other microorganisms - H. influenzae (in 12.7%), S. viridans (in 7.6%), B. catarrhalis (in 5.1%). It should be noted that pneumococcal etiology of community-acquired pneumonia was more often observed in the group of school-age children (7–10 years old), H. influenzae was detected mainly in children aged 3–6 years.

At the outpatient stage, the vast majority (88.9%) of children with signs of community-acquired pneumonia received antibacterial therapy from the first days of illness, and only 11.1% of patients were not prescribed antibacterial drugs. The drugs of choice for the initial treatment of community-acquired pneumonia in 57.6% of cases were penicillin drugs. Of these, oral ampicillin (in 21.2% of children), amoxicillin (in 19.5%), amoxicillin/clavulanate (in 16.9%) were most frequently used. Attention was drawn to the fairly frequent administration of

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ampicillin orally, which, from our point of view, is inappropriate due to the low (35–40%) bioavailability of the drug, dependence on food intake, and the creation of low concentrations in body fluids, in particular in sputum [3].

Macrolides, according to our observations, were used less frequently — in 22 (18.6%) patients. Of these, the drugs of choice were midecamycin (in 8.5% of children) and erythromycin (in 4.2%). According to literature sources, midecamycin is quite popular in outpatient practice, but it is not active enough against Gram-positive cocci due to the increase in resistance of pathogens observed in recent years. It also seems unreasonable to prescribe erythromycin, which has low bioavailability (30-65%), causes dyspepsia in the gastrointestinal tract and has a clinically significant interaction with other drugs, in particular, it inhibits metabolism and enhances the effect of xanthines (theophylline), glucocorticoids (methylprednisolone), cardiac glycosides, etc., which increases the risk of adverse reactions. In addition, erythromycin and its metabolites form stable compounds with cytochrome P-450, inhibiting its activity, which, with the simultaneous administration of drugs, disrupts biotransformation in the liver and reduces the rate of their elimination [5]. In addition, erythromycin is not active against pneumotropic pathogens.

From our point of view, it is preferable to prescribe a 15-mer macrolide - azithromycin, which, 24-96 hours after administration, has a concentration in the bronchial mucosa 200 times, and in bronchial secretion 80 times higher than the serum level [2]. According to a number of researchers, higher concentrations in bronchial secretions are created by such macrolides as clarithromycin and spiramycin [2]. In our observations, azithromycin was prescribed in 2.5% of cases, spiramycin — in 3.4%.

CONCLUSION

Thus, our observations of children with community-acquired pneumonia of severe and moderate course allow us to draw the following conclusions about the effectiveness of antibiotic therapy for community-acquired pneumonia at the stages of outpatient and hospital treatment:

- in the outpatient setting, the most effective drugs are drugs of the group of semi-synthetic penicillins (amoxicillin) and their protected forms (amoxicillin / clavulanate), however, there is a tendency to increase resistance to these drugs;
- in conditions of hospital treatment, cephalosporins of II-III generation are more effective.

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