

OUR EXPERIENCE OF USING TARGETED EMPIRICAL ANTIBACTERIAL THERAPY FOR NOSOCOMIAL PNEUMONIA IN CHILDREN

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Annotation: *Lower respiratory tract infections include bronchitis, bronchiolitis and pneumonia [2]. In children, they usually occur acutely, in some cases, especially in young children (up to 3 years old), they are complicated by bronchoobstructive syndrome of varying severity [1-4]. Since the etiological structure of lower respiratory tract infections differs primarily by the nature of the environment surrounding the patient, from a practical point of view, the most significant is the division of these infections into community-acquired ("outpatient") and nosocomial (hospital, nosocomial), regardless of the severity of the disease [5-8]. Nosocomial pneumonia is considered to be those that manifested clinically and radiologically 48-72 hours after hospitalization, excluding infections that could be in the incubation period at the time of admission to the hospital [9-13].*

The etiological structure of community-acquired and nosocomial bacterial infections of the lower respiratory tract differs significantly [14-18]. Pathogens of community-acquired infections are usually characterized by a higher sensitivity of strains to antibiotics, and nosocomial pathogens in the bulk are significantly more resistant to antibiotic therapy and cause a more severe course of infection, which requires parenteral administration of antibiotics in combinations [19-22].

The diagnosis of acute pneumonia is an absolute indication for antibacterial therapy, which is etiotropic and is necessarily carried out in parallel with pathogenetic and symptomatic treatment. Rational antibiotic therapy is the basis for effective treatment of pneumonia [23-27]. Depending on the patient's condition, it is performed on an outpatient basis or in a hospital, but in the vast majority of cases, due to the underdevelopment of express methods of bacteriological diagnosis, antibiotics are prescribed empirically.

Keywords: *children, acute nosocomial pneumonia, targeted empirical antibacterial therapy*

Relevance. Despite the high effectiveness of treatment with antibacterial drugs, acute pneumonia remains among the 10 most important causes of death in developed countries [1-3]. According to statistics, the mortality rate for children from community-acquired pneumonia is on average 13.1 per 100,000 children, and mostly young children die. Despite the improvement of the methods of prevention, diagnosis and the progress of medicine in the development of new antibacterial drugs, so far there have been no significant trends in decreasing the proportion of community-acquired pneumonia in the morbidity and mortality of children, which emphasizes the relevance and enormous importance of methods for determining the etiology of the infectious

process [5-6]. The gold standard for diagnosing community-acquired pneumonia is the detection of the pathogen and the determination of its sensitivity to antibiotics [8-9]. But unfortunately, empirical antibiotic therapy is often prescribed at random. Such tactics are unacceptable, since the adequacy of empirical therapy can determine the fate of the child. The primary reference points for empirical therapy are bacterioscopy of a Gram-stained smear using the express method.

Purpose of the study. Evaluation of the effectiveness of oriented empirical antibiotic therapy for community-acquired pneumonia in children according to the results of the express method for identifying pathogens by Gram stain.

Material and methods. Under our supervision, there were 54 children (28 boys and 26 girls) aged 6 months to 5 years who were admitted in a moderate state with a diagnosis of community-acquired pneumonia for inpatient treatment in the children's departments of the Samarkand branch of the Republican Scientific Center for Emergency Medical Care. Group I consisted of 24 children who received standard treatment. Group II included 30 children who underwent an express method for determining pathogens, followed by the appointment of oriented empirical antibiotic therapy. Bacterioscopic material was a swab from the throat or sputum. Based on the results of rapid diagnosis of bacterial pathogens of community-acquired pneumonia, oriented empirical antibiotic therapy was prescribed with Amoxicillin (when Gr + flora is detected) and Zitmak (when Gr-bacteria are detected) in suspensions, in age-related dosages.

The results of the study. The method allowed for a short time (in 12-15 minutes) to determine the presence and ratio in the material of Gr + bacteria stained in dark purple, Gr-microorganisms stained in dark red and yeast. Based on the results of the studies, reliable data were obtained on the clinical effectiveness of empirical antibiotic therapy, focused on the results of the express method. So, in the II group of patients, symptoms of intoxication, respiratory disorders were stopped much earlier, compared with the control. Monoantibiotic therapy was used in all patients of group II, while in group I, due to the ineffectiveness of the chosen antibiotic, in 25% of cases it was necessary to prescribe an additional antibiotic from the group of cephalosporins and aminoglycosides.

Conclusions. The use of the express technique makes it possible to prescribe oriented empirical antibiotic therapy upon admission to the hospital. The application of this technique can be recommended for inclusion in the standards for diagnosing community-acquired pneumonia in children, not only in the regional branches of the Center for Emergency Medicine and their sub-branches, but also in medical institutions providing in-patient care to children. This method of preliminary determination of the cost of Gram belonging to the causative agents of community-acquired pneumonia in children with the aim of prescribing early oriented empirical antibiotic therapy can be carried out in the in-patient diagnostic department of the hospital, while the full

clinical examination of the patient is underway, economically and temporarily. Further study of bacteriological material after 72 hours will give a final and more specific result on the species affiliation of Gr + and Gr-causative agents of community-acquired pneumonia and the degree of their sensitivity to antibiotics, with the aim of proving the adequacy of the selected etiotropic therapy and the corresponding correction in treatment.

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