PROBLEMS OF DIAGNOSIS OF COMMUNITY ACQUISITED PNEUMONIA IN YOUNG CHILDREN

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Annotation. The most common form of acute infectious pneumonia in children is community-acquired pneumonia, which can be accompanied by the development of both pulmonary and extrapulmonary complications. The relevance lies in the complexity of diagnosis and treatment of community-acquired pneumonia in children. 96% of all deaths due to pneumonia occur in early childhood, and the maximum number of adverse outcomes occurs during infancy. The article provides data on pneumonia as one of the most common and serious lung diseases in children.

Key words: community-acquired pneumonia, pathogens, antibacterial therapy, vaccination.

ПРОБЛЕМЫ ДИАГНОСТИКИ ВНЕБОЛЬНИЧНОЙ ПНЕВМОНИИ У ДЕТЕЙ РАННЕГО ВОЗРАСТА

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Аннотация. Наиболее частой формой острого инфекционного воспаления легких у детей является внебольничная пневмония, которая может сопровождаться развитием как легочных, так и внелегочных осложнений. Актуальность заключается в сложности диагностики и лечения внебольничной пневмонии у детей. 96 % всех летальных случаев в результате пневмонии приходится на ранний возраст, а максимальное число неблагоприятных исходов

отмечается в период младенчества. В статье приведены данные о пневмонии как одном из наиболее частых и серьезных заболеваний легких у детей.

Ключевые слова: внебольничная пневмония, возбудители, антибактериальная терапия, вакцинация.

Introduction. Pneumonia is an acute infectious inflammation of the pulmonary parenchyma, diagnosed on the basis of characteristic clinical and radiographic signs.

Pneumonia is one of the most common and serious lung diseases in children. In economically prosperous countries, its frequency in children of the first five years of life averages from 5 to 10 cases per 1000 per year [2]. WHO experts emphasize that the main preventable causes of death in this pathology are late verification and lack of etiotropic therapy [3, 7]. Thus, a favorable prognosis for pneumonia in children is largely determined by early diagnosis, as well as timely and adequate prescription of antibacterial agents.

Timely diagnosis of pneumonia is based on the results of a detailed and consistent analysis of clinical, anamnestic and radiological data [2, 9, 11]. The main clinical symptoms that allow one to suspect pneumonia in a child are: shortness of breath, fever, toxicosis, cyanosis, cough, as well as typical physical findings (shortening of percussion sound over the affected area of the lungs and auscultatory changes localized here - weakening or intensification of breathing with the subsequent appearance of crepitating or wet - bubbling wheezing). It should be noted, however, that with pneumonia in young children it is often difficult to identify auscultatory asymmetry in the lungs. This is due to the fact that their inflammation of the pulmonary parenchyma is rarely isolated and, as a rule, develops against the background of bronchitis. At the same time, dry and moist rales of various sizes can be heard throughout both lungs, which is why the typical auscultatory picture of pneumonia, especially small-focal pneumonia, may not be detected. In addition, if the technique of listening to the lungs in young children is violated, auscultatory changes may not be detected at all.

In general, if a febrile child with an acute respiratory infection has at least one of the signs of morning sickness, dyspnea, cyanosis, and typical physical findings, a chest x-ray should be performed. The detection in the lungs of homogeneous infiltrative changes of a focal, focal-confluent or segmental nature allows us to confirm the clinical assumption of the development of pneumonia caused by typical pathogens (pneumococcus, etc.). Small inhomogeneous infiltrates, which have bilateral localization and are detected against the background of an enhanced vascular-interstitial pattern, as a rule, indicate an atypical etiology of pneumonia (mycoplasmosis, chlamydia, pneumocystosis). X-ray confirmation of pneumonia is a mandatory criterion for the “gold standard” for diagnosing this disease [1, 5, 12].

Regardless of where treatment is carried out, therapeutic measures must be comprehensive and include adequate child care, proper daily and nutritional regimen, rational use of etiotropic and symptomatic drugs. The key link in this complex is adequate antibacterial therapy.

The choice of antibacterial drugs for pneumonia, as for other infectious and inflammatory diseases, should be determined primarily by the characteristics of the etiology of the disease. However, in the vast majority of cases, correct microbiological examination of children with pneumonia is not carried out. The lack of data on the etiology of the disease leads to the prescription of antibacterial therapy "blindly," which in turn predetermines the lack of therapeutic effect. To reduce the number of errors in antibacterial therapy for pneumonia in children, in recent years, recommendations have been developed for the empirical selection of starting antibiotics. The fundamental principle of the developed algorithms is the choice of drugs depending on the epidemiological conditions and age of the sick: it has been established that the etiology of pneumonia directly depends on these factors. Epidemiological classification of pneumonia involves the identification of community-acquired, hospital-acquired and intrauterine forms of the disease [3, 14, 16].

Community-acquired pneumonia is spoken of in cases where the infection and illness of a child is not associated with his stay in a medical institution. This emphasizes that the development of pneumonia occurred in a normal microbial environment. This makes it possible to suggest with a high degree of probability the etiology of the disease, since it has been established that the main causative agent of community-acquired pneumonia is Streptococcus pneumoniae. Less commonly, it is caused by Haemophilus influenzae, Mycoplasma pneumoniae, chlamydia Chlamydia trachomatis - in children in the first months of life and Chlamydia pneumoniae - in subsequent age periods and respiratory viruses. In those cases where infection and development of pneumonia occurred 48–72 hours after the child was admitted to the hospital or within 48–72 hours after discharge from the hospital, it is classified as nosocomial [1, 4, 8].

A huge achievement of modern medicine has become the possibility of active specific immunoprophylaxis of pneumonia in young children that has emerged in recent years.

Unfortunately, in our country there is no system of epidemiological surveillance of pneumococcal infection, and etiological verification of pneumonia is carried out only in some specialized medical institutions. This significantly complicates the objective assessment of the etiology of community-acquired pneumonia and determines the need to use calculated data, focusing on the results of single pilot studies.

Such close attention to the problem of pneumococcal infection in general and to its nosological form, such as pneumococcal pneumonia in young children, is due not

only to the wide distribution, but also to the severe course of the disease. The high risk of developing invasive forms of pneumococcal infection is associated with age-related characteristics of immunity, and primarily in children in the first two years of life. Unsuccessful attempts to immunize young children with polysaccharide pneumococcal vaccines are also explained by certain immunological features [3, 6, 13].

Taking into account that in the etiological structure of the causative agents of pneumonia in young children, a significant proportion is Hemophilus influenzae, it becomes clear that vaccination against this infection should be included in the vaccination calendar. In addition, given that the incidence of pneumonia increases significantly during periods of influenza epidemic, a significant reduction in incidence can also be achieved through annual influenza vaccination [2, 10, 15].

Conclusions. Active implementation of agreed algorithms for the diagnosis and rational treatment of pneumonia into everyday clinical practice will contribute to early verification of the disease in children, adequate treatment and reduction of the risk of complications and adverse outcomes. A significant reserve for reducing morbidity and mortality from pneumonia in children is vaccination.

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