



THE ROLE OF TIMELY DIAGNOSTICS OF OUT-OF-HOSPITAL PNEUMONIA AND INDICATIONS FOR HOSPITALIZATION IN CHILDREN

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ABSTRACT

Pneumonia is an acute infectious and inflammatory process that mainly affects the respiratory part of the lung tissue, and radiologically-infiltrative changes in the lungs. The presence of radiological signs is the "gold standard" of diagnosis, since it allows not to attribute viral lesions of the lower respiratory tract to pneumonia, in which antibacterial treatment is not necessary. This article details the results of monitoring patients with community-acquired pneumonia on an outpatient basis, presents clinical, radiological and laboratory data, as well as the results of treatment in outpatient settings.

KEY WORDS: *community-acquired pneumonia, diagnosis, children, respiratory failure, hospitalizations.*

RELEVANCE

Pneumonia in young children is clinically manifested by varying degrees of respiratory failure, and radiologically by infiltrative changes in the lungs [1,2,5,8]. The presence of radiological signs is the "gold standard" of diagnosis, since it allows not to classify viral lesions of the lower respiratory tract as pneumonia (bronchitis, bronchiolitis), in which antibacterial treatment is not needed. According to the literature, the incidence of pneumonia is about 15-20 per 1000 children in the first three years of life per year and about 5-6 cases per 1000 children over 3 years of age [6,9,11]. Predisposing factors for the development of pneumonia in young children are perinatal pathology, congenital defects of the heart and other internal organs, rickets, atopic dermatitis, hypovitaminosis and deficiency conditions, including immunodeficiencies [3,4,7,10].

Purpose of the study. To determine the role of timely diagnosis, complex treatment of community-acquired pneumonia in young children on an outpatient basis and to develop recommendations for hospitalization in a hospital.

MATERIALS AND RESEARCH METHODS

We examined 125 patients aged from 3 months up to 3 years old who applied to the family polyclinic

No1 of Samarkand with community-acquired pneumonia. The patients studied complaints, anamnestic data, clinical symptoms, analyzed the results of laboratory and instrumental methods of research and, on their basis, developed recommendations for hospitalization of sick children with acute pneumonia in the hospital.

Clinical symptoms were the basis for the diagnosis of community-acquired pneumonia in children. In young children, signs of acute respiratory failure (ARF), intoxication came to the fore, and local physical changes in the lungs often appeared later. Therefore, if, when viewed from a child, regardless of the level of body temperature and in the absence of obstruction, there is:

- Increased breathing rate (60 per minute for children in the first months of life, 50 per minute for children 2-12 months old, 40 per minute for children 1-4 years old);
- Retraction of the intercostal space;
- Moaning (grunting) breathing;
- Cyanosis of the nasolabial triangle;
- signs of toxicosis ("sick" appearance, refusal to eat and drink, drowsiness, irritability, severe pallor at elevated body temperature), then the condition was assessed as severe with a high probability of the presence of community-acquired pneumonia. These



patients were recommended an antibiotic and referred to the hospital.

If the child does not have the signs listed above, but there are: a temperature of 38 ° C for more than 3 days, local physical signs of community-acquired pneumonia, as well as asymmetry of wheezing, then the presence of this disease should be assumed. These patients were recommended to undergo a complete blood count, chest x-ray, and, if it is impossible to do so, to prescribe an antibiotic.

All patients with signs of respiratory failure were referred to inpatient treatment. If children had a febrile temperature for 1-2 days in the absence of the above signs, they were monitored at home as a patient with acute respiratory disease (ARI).

In addition to clinical diagnostic criteria, the diagnosis of pneumonia is confirmed by X-ray data. Children under three years old were most often hospitalized for constant monitoring of the condition and in order to avoid the development of complications. Older children were left at home, subject to the strict fulfillment of all recommendations by their parents.

The basic principles of antibiotic therapy for pneumonia are as follows:

- antibiotics with an established diagnosis or with a serious condition of the patient are prescribed immediately, in case of doubt about the diagnosis in a non-severe patient, the decision is made after X-ray;
- In uncomplicated pneumonia, preference should be given to prescribing drugs orally, switching to parenteral administration when the course of the disease worsens. The indications for prescribing antibiotics in children with respiratory pathology were severe intoxication, high body temperature for more than 3 days, clinical signs of pneumonia, early age of the child (first year of life), and prolonged course of the inflammatory process. In most cases, the antibiotic was prescribed prior to knowledge of the causative agent. Therefore, the choice of the first drug was carried out empirically (by experience). This was the so-called starting empirically selected therapy.

Evaluation of the effectiveness of the drugs administered to the patient is the only way to decide whether it makes sense to continue treatment with the empirically selected drug or whether it should be changed. With a good effect, already after 24-48 hours the temperature decreases, the general condition improves, the pneumonic changes decrease or at least do not increase (the number of wheezing may increase). In these cases, drugs were not substituted. If therapy was started with an injectable form of an antibiotic, then it was replaced with an oral one. In most cases, minor pneumonia was treated with antibiotics for 4-6 days at home.

Lack of effect - preservation of temperature and an increase in pneumonic infiltration according to X-ray data, made it possible to exclude the reason that the doctor suggested when choosing a starting drug, and to prescribe an alternative scheme. The replacement or at least the addition of a new antibacterial agent was carried out after 36-48 hours. The lack of effect - preservation of temperature and an increase in pneumonic infiltration according to X-ray data, allows excluding the cause that was suggested when choosing a starting drug and prescribing an alternative regimen. The replacement or at least the addition of a new antibacterial agent was carried out after 36-48 hours (and in case of extremely severe infections - after 24 hours) in the absence of a therapeutic effect.

In the treatment of pneumonia in children, three main groups of antibiotics are used: penicillin and semisynthetic penicillins (ampicillin, amoxicillin, amoxiclav, etc.), cephalosporins of various generations (cephalexin, cefuroxime, ceftriaxone, cefoperazone), macrolides (erythromycin, and dr. ... In the absence of an effect during pneumonia, antibiotics of other groups and a combination of drugs of various groups, including those with sulfonamides or metronidazole, were used. For fungal pneumonia, fluconazole (Diflucan) or amphotericin B was used. Depending on the characteristics of the course of pneumonia, the question of additional drugs was decided in each specific case: expectorants, bronchodilators, antiallergic, vitamins, etc.

Bed rest was prescribed for the entire febrile period. Meals were prescribed according to age and were necessarily complete. The volume of fluid per day for children under one year old, taking into account breast milk or milk formulas, was 140-150 ml / kg of body weight. 1/3 of the daily volume of liquid was given in the form of glucose-salt solutions (rehydron, smecta, ORSA) or fruit and vegetable decoctions. Dietary restrictions (chemically, mechanically and thermally benign food) were determined depending on the appetite and the nature of the stool.

Antipyretic drugs have not been systematically prescribed, as this may complicate the assessment of the effectiveness of antibiotic therapy. The exception was children with premonitory indications for temperature reduction (febrile convulsions).

We considered fever as a factor that stimulates the body's defenses. In our opinion, many bacteria and viruses die faster at elevated temperatures, against its background the body gives off a full-fledged immune response. Unreasonable and frequent



prescription of drugs for any increase in temperature can lead to various complications.

With a painful or persistent cough in patients with pneumonia, mucoregulatory agents were widely used: facilitating the evacuation of sputum (expectorants) and thinning sputum (mucolytic) agents, since expectorants increase the secretion of the liquid component of sputum and improve sputum transport by increasing bronchial motility. When prescribing expectorants, efforts have been made to ensure adequate hydration (drinking), since the loss of water increases the viscosity of the sputum. We used medicines based on the infusion of marshmallow root with the addition of sodium benzoate, potassium iodide and ammonia-anise drops. Patients were prescribed bronchicum, "Doctor Mom", which are expectorants.

Mucolytics help thin the phlegm by chemically acting on the mucin (mucus) molecule. For diseases of the lower respiratory tract with the formation of thick viscous sputum, drugs containing acetylcysteine (ACC, mukomist, flumucil) were used. Considering that the derivatives of the alkaloid vazicin have a mucolytic effect, we prescribed bromhexine, bisolvone, mucosalvan, which reduce the viscosity of the secretion, restore mucociliary clearance, and stimulate the synthesis of endogenous surfactant.

Herbal infusions (plantain, nettle, coltsfoot, ipecacuanha root, anise fruit, licorice root, etc.) or dosage forms of them - eucabal, mukaltin, were also useful in the therapy of patients. In the acute period, microwave (5-7 sessions), inductothermy were prescribed; electrophoresis with 3% potassium iodide solution (10 sessions). After the temperature returned to normal, massage and exercise therapy were prescribed.

CONCLUSIONS

Timely diagnosis of community-acquired pneumonia, comprehensive treatment and development of indications for hospitalization significantly improve the prognosis of community-acquired pneumonia in young children.

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