Features of Community Acquisited Pneumonia in Children

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ABSTRACT

We examined 116 patients aged 3 months and over. up to 3 years old who applied to a family clinic with community-acquired pneumonia. Patients studied complaints, anamnestic data, clinical symptoms, analyzed the results of laboratory and instrumental research methods and developed recommendations for hospitalization of sick children with acute pneumonia in the hospital. The article presents the results of observation of patients with community-acquired pneumonia and treatment on an outpatient basis, data from clinical, radiological and laboratory studies and indications for hospitalization. Thus, timely diagnostics, complex treatment community-acquired pneumonia on an outpatient basis and the development of recommendations for hospitalization in a hospital significantly improve the prognosis of community-acquired pneumonia.

Keywords: pneumonia, patients, respiratory failure, diagnosis, treatment

Introduction

Pneumonia is an acute infectious and inflammatory process that mainly affects the respiratory part of the lung tissue, clinically manifested by varying degrees of respiratory failure, and radiographically - by infiltrative changes in the lungs [1-10]. 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 [11-17].

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 [18-21].

Purpose of the Study

To determine the role of timely diagnosis and treatment of community-acquired pneumonia in children.

Materials And Methods

We examined 116 patients aged from 3 months. up to 3 years old, who applied to the family polyclinic No. 2 of Samarkand with community-acquired pneumonia. Patients studied complaints, anamnestic data, clinical symptoms, analyzed the results of laboratory and instrumental research methods and 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, upon examination, a child, regardless of the level of body temperature and in the absence of obstruction, has an increase in breathing (60 per minute in children of the first months of life, 50 per minute in children 2-12 months, 40 per minute in children 1 year-4 years old); retraction of the intercostal space; moaning (grunting) breath; cyanosis of the nasolabial triangle; signs of toxicosis, the condition was assessed as severe with a high probability of the presence of community-acquired pneumonia. These patients were prescribed an antibiotic and referred to the hospital.

If the child does not have the signs indicated above, but has a temperature of 38°C for more than 3 days, local physical signs of community-acquired pneumonia, and 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 was not possible, they were prescribed an antibiotic.

All patients with signs of respiratory failure were referred for inpatient treatment. If the 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 criteria, the diagnosis of pneumonia was 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, provided that the parents strictly followed all the recommendations.

The main principles of antibiotic therapy for pneumonia were as follows:

- antibiotics were prescribed immediately if the diagnosis was established or in case of a serious condition of the patient; if the diagnosis in a non-severe patient was in doubt, the decision was made after radiography;
- in uncomplicated pneumonia, preference was given to prescribing drugs orally, switching to parenteral administration when the course of the disease aggravated.

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), 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.

Evaluating 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 chosen drug or whether it should be changed. With a good effect, already after 24–48 hours the temperature decreased, the general condition improved, the pneumonic changes decreased or, at least, did not increase (the number of wheezing may increase). In these cases, drugs were not substituted. If the 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.

The 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 (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 were used: penicillin and semisynthetic penicillins (ampicillin, amoxicillin, amoxiclav, etc.), cephalosporins of various generations (cephalexin, cefuroxime, ceftriaxone, cefoperazone), macrolides (eamycin 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 in each case, the question of additional drugs was decided: expectorant, bronchodilator, antiallergic, vitamins, etc.

Bed rest was prescribed for the entire febrile period. Nutrition was prescribed according to age, which was 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. One third 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 were not systematically prescribed, as this could complicate the assessment of the effectiveness of antibiotic therapy. The exception was children with premorbid indications for temperature reduction (febrile convulsions). Fever was considered 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 it (mucolytic) agents. Expectorants increase the secretion of the liquid component of sputum and improve its transport by increasing bronchial motility. When prescribing expectorants (bronchicum, "Doctor MOM"), they tried to ensure sufficient 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. The patients were prescribed expectorants.

Mucolytic agents contributed to the liquefaction of sputum by chemical action on the mucin (mucus) molecule. For diseases of the lower respiratory tract with the formation of thick viscous sputum, drugs containing acetylcysteine (ACC, mukomist, fluimucil) were used. Considering that the derivatives of the alkaloid vazicin have a mucolytic effect, bromhexine, bisolvone, mucosalvan were prescribed, which reduce the viscosity of the secretion, restore mucociliary clearance, and stimulate the synthesis of endogenous surfactant.

Herbal infusions (plantain, nettle, mother and stepmother, 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), inductothermia were prescribed; electrophoresis with 3% potassium iodide solution (10 sessions). After the temperature returned to normal, massage and exercise therapy were prescribed.

Conclusions

Thus, timely diagnostics, complex treatment of community-acquired pneumonia on an outpatient basis and the development of recommendations for hospitalization in a hospital significantly improve the prognosis of community-acquired pneumonia.

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