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SOME ASPECTS OF BRONCHO-OBSTRUCTIVE SYNDROME IN CHILDREN AT THE CURRENT STAGE

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ABSTRACT
Broncho-obstructive syndrome in children is clinically manifested by paroxysmal cough, expiratory dyspnea, asthma attacks and is associated with impaired bronchial patency, develops acutely, but can be persistent. The first symptoms: shortness of breath and wheezing syndrome often appear in children at an early age. Differential diagnosis of biofeedback in young children is difficult due to the impossibility of using methods for assessing the function of external respiration, difficulties in obtaining sputum for cytological and bacteriological studies in order to verify the diagnosis. Early diagnosis, which determines the tactics of treatment, largely determines the prognosis of the disease and the choice of preventive measures.

Keywords: broncho-obstructive syndrome, children, cough, shortness of breath, diagnosis, treatment.

Introduction

Bronchial obstruction syndrome is quite common in children, especially in children of the first three years of life [1,3,7,11,24,26]. Its occurrence and development is influenced by various factors, and primarily by acute respiratory infection. To date, there are no clear data on the prevalence of biofeedback in various bronchopulmonary pathologies in children [2,4,6,10,13,16,19]. The frequency of bronchial obstruction that develops against the background of infectious diseases of the lower respiratory tract in young children is, according to various authors, from 5 to 40% [15,17,20,22,25].

Broncho-obstructive syndrome, bronchial obstruction syndrome is a set of clinical signs resulting from a total narrowing of the lumen of the bronchi. Narrowing of the lumen of the small bronchi and forced exhalation leads to whistling sounds.

CLINICAL PICTURE

Clinical manifestations include prolongation of exhalation, the appearance of expiratory noises (wheezing), attacks of suffocation, participation of auxiliary muscles in the act of breathing, and unproductive cough. With severe obstruction, the respiratory rate increases, fatigue of the respiratory muscles develops, and the partial tension of blood oxygen decreases [5,8,9,12,14,18,21,23,27].

The causes of BOS in children in the first year of life are:
• aspiration by a foreign body,
• congenital anomalies of the nasopharynx,
• gastroesophageal reflux,
• malformations of the trachea and bronchi,
• hypertension in the pulmonary circulation due to insufficient cardiovascular activity,
• respiratory distress syndrome,
• legonous form of cystic fibrosis,
• bronchopulmonary dysplasia,
• immunodeficiency states,
• due to intrauterine infection,
• from passive smoking,
• during an attack of bronchial asthma.
In children 2-3 years old, BOS may occur for the first time due to:
• bronchial asthma,
• rhino-syncytial respiratory viral infection (RSVI)
• foreign body aspiration,
• migration of round helminths,
• bronchiolitis obliterans,
• congenital heart diseases,
• hereditary diseases,
• heart defects with pulmonary hypertension,
• ARVI with obstructive syndrome.
In children over 3 years of age, the main causes of biofeedback are:
•bronchial asthma,
• congenital and hereditary respiratory diseases:
• cystic fibrosis,
• ciliary dyskinesia syndrome,
• malformations of the bronchi.
• foreign body aspiration.
• ARVI with obstructive syndrome.

DIAGNOSTICS

To diagnose a disease occurring with biofeedback, it is necessary to study in detail the clinical and anamnestic data, paying special attention to the presence of atopy in the family, previous diseases, and the presence of relapses of bronchial obstruction. Newly diagnosed mild BOS, developing against the background of a respiratory infection, does not require additional examination methods. In case of recurrent BOS, the complex of examination methods should include:
- A general blood test reveals typical changes for an uncomplicated respiratory viral infection (leukopenia, lymphocytosis, increased ESR). Moderate eosinophilia in obstructive

bronchitis is somewhat more common than in bronchiolitis, which is associated with a large number of patients with an allergic predisposition;

- serological tests (specific immunoglobulins of classes M and G are required, IgA testing is desirable) for the presence of chlamydial, mycoplasma, cytomegalovirus, herpes and pneumocystis infections. In the absence of IgM and diagnostic IgG titers, the study must be repeated after 2-3 weeks (paired sera);

- serological tests for the presence of helminthiasis (toxocariasis, ascariasis); - allergy examination (level of general IgE, specific IgE, skin prick tests), other immunological examinations are carried out after consultation with an immunologist.

Bacteriological examination methods and PCR diagnostics are highly informative only when collecting material during bronchoscopy; smear examination characterizes mainly the flora of the upper respiratory tract. If the obstructive syndrome persists, an ECG, ultrasound examination of the heart with mandatory Doppler echocardiography is prescribed to exclude heart failure in children with pulmonary hypertension due to congenital heart defects.

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Chest X-ray is not a mandatory method of examination in children with biofeedback.

The study is carried out:

- if a complicated course of biofeedback is suspected (for example, the presence of atelectasis);
- to exclude acute pneumonia;
- if a foreign body is suspected; - with a recurrent course of biofeedback (if radiography has not been performed previously).

According to indications, bronchoscopy, bronchography, scintigraphy, angiopulmonography, and computed tomography are performed. The scope of the examination is determined individually in each specific case.

THERAPEUTIC TACTICS

Doctor's tactics at the prehospital stage for biofeedback in a child.

1. In the presence of asphyxia and an extremely serious condition of the child, which arose suddenly, against the background of complete health, immediate intubation and transfer to artificial ventilation are indicated. And emergency hospitalization to the nearest hospital, where there is an intensive care unit in the emergency department.
2. If there are no signs of asphyxia and foreign body aspiration, and the child also does not have a diagnosis of bronchial asthma, the doctor must quickly determine what caused the BOS in the child: infection or allergy. After determining the reason, act according to the nature of the established diagnosis. When establishing an allergic cause, you must act as if you were dealing with an attack of bronchial asthma. When establishing the infectious nature of BOS, act accordingly.

Emergency care for biofeedback:

I. For obstructive bronchitis and bronchiolitis, prescribe:

1. Alternate aerosol inhalations with isotonic sodium chloride solution, 2% soda solution, bronchodilators (2.4% aminophylline solution) with the administration of humidified oxygen every 2-4 hours.

2.Administer a 2.4% solution of aminophylline at a dose of 3-5 mg/kg IV in a slow stream or prescribe aminophylline enterally at the same dose.

3. For stage II-III DN, administer a 3% solution of prednisolone at a dose of 1-2 mg/kg intravenously.

4. Prescribe expectorants and secretolytics: lazolvan at a dose of 1 mg/kg per day, 3% potassium iodide solution 1 tsp, bromhexine 1/2-1 tablet, terpine hydrate 0.05-0.25, solutan 1 drop per year of life.

5. In case of unfavorable allergic history or profuse sputum, prescribe antihistamines: 1% diphenhydramine solution at a dose of 0.1 ml/year of life IM or IV or Tavegil 1/2-1 tablet.

II. In case of a bronchial foreign body, emergency hospitalization of the child to the ENT department in an upright position for bronchoscopy.

III. Emergency care for an attack of bronchial asthma.

Urgent hospitalization if status asthmaticus or complications develop. Provide access to fresh air. Create a calm environment. Carry out distracting thermal procedures (hot hand or foot baths). Use an inhaler to administer previously selected bronchodilators (Berodual, Asthmopent, etc.).

In severe cases, bronchiolytics can be administered subcutaneously (0.1% adrenaline solution - 0.15-0.5 ml or 0.01 ml/kg of the child's body weight). If there is no effect from the administration of these drugs at the prehospital stage, you can administer a 1.2% or 2.4% solution of aminophylline (for children under one year old - 0.1-0.3, 1-3 years old - 0.3-0.5, 4 -5 years - 0.5-0.7 ml). At the same time, antihistamines should be administered (pipolfen, suprastin orally or intramuscularly in age-specific dosages).

With the development of stage I of status asthmaticus and in the absence of effect from the use of aminophylline and other bronchodilators, the administration of prednisolone intramuscularly or intravenously at a dose of 3-5 mg/kg body weight is indicated. To thin the mucus in the respiratory tract, you can use mucolytic drugs, bromhexine, proteolytic enzymes, acetylcysteine, and drinking plenty of alkaline mineral waters.

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