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CHRONIC LUNG DISEASES IN CHILDREN

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Abstract:

Diagnosis of chronic lung diseases" reflects the main purpose of the monograph — to help a doctor correctly assess clinical symptoms, to be able to apaply functional methods of external respiration research in a timely manner, including, in particular, bodyplethysmography. Among the radiation diagnostic methods, the methods of computed tomography (computed bolus angiography) naturally took the leading place. It is emphasized that magnetic resonance imaging (MRI) in pediatrics is used to assess the condition of the roots of the lungs, and its use is limited due to the need for anesthesia. Anesthesia requires, in turn, the purchase of expensive amagnetic equipment.

Keywords: Clinical Observations, Bronchial Asthma, Myocardial Tuberculosis

The authors attach particular importance in the diagnosis of chronic lung diseases in children to endoscopic methods, characterization of endobronchial changes and the function of ciliary cilia. Methods of computer evaluation of biopsies of ciliary epithelium and electron microscopy allow determining the nature of ciliary dyskinesia and morphological changes of cilia.

Special attention should be paid to the diagnosis of chronic bronchitis in children. The attitude towards her is ambiguous. Until now, many pediatricians have considered chronic bronchitis only as a manifestation of other diseases (the so-called secondary chronic bronchitis). However, clinical observations and modern special studies have shown that chronic bronchitis in children is possible as a separate nosological form. The authors define chronic bronchitis as a chronic widespread inflammatory lesion of the bronchi, which is clinically manifested by a productive cough, wet wheezing in the lungs in the presence of 2-3 exacerbations of the disease per year for two or more consecutive years.

The seriousness of the problem of a1-antitrypsin deficiency lies in the fact that even in Europe, only 5% of patients are diagnosed. The pathogenesis of the disease is based on the deficiency of the protease inhibitor a 1-antitrypsin, which leads to the formation of emphysema of the lungs and liver damage. There is increasing evidence of the role of a1-antitrypsin deficiency in the genesis of chronic bronchitis and bronchiectatic disease.

Bronchial asthma occupies a special place in the problem of chronic lung diseases in children. The materials are completely devoted to this disease and generally correspond to the latest version of the National Program "Bronchial asthma in children. Treatment strategy and prevention" (2008). The chapter rightly points out that under diagnosis and late diagnosis of bronchial asthma remain a serious problem, reveals complex issues of epidemiology, etiology and pathogenesis, clinical picture, diagnosis and differential diagnosis of the disease. In the treatment of bronchial asthma, the emphasis is on both the etiopathogenetic approach and basic therapy.

This group of diseases includes malformations associated with underdevelopment of bronchopulmonary structures:

- Agenesis, aplasia, hypoplasia of the lungs;
- Malformations of the tracheal and bronchial walls (common or limited);
- Lung cysts;
- Lung sequestration;
- Malformations of pulmonary veins, arteries and lymphatic vessels.

Many malformations cause the recurrence of bronchopulmonary inflammation and form the basis for the secondary formation of a chronic inflammatory process.

Clinically, chronic bronchiolitis is manifested by recurrent unproductive cough, shortness of breath, bronchoobstructive syndrome; auscultation is determined by weakened breathing and small-bubbly wheezing.

The diagnosis is made on the basis of characteristic clinical data and radiological signs of increased transparency of the lung part. Scintigraphy reveals a sharp decrease in blood flow in the affected area, and bronchography reveals local bronchial obliteration below generation 5-6 in the absence of signs of pneumosclerosis. With bronchoscopy, catarrhal endobronchitis is more often detected. The majority of patients (75%) are characterized by persistent obstructive ventilation disorders and moderate hypoxemia.

The clinical picture of the disease is characterized by a wet cough, chest deformity; constant localized wet wheezing in the lungs, periodic exacerbations. 35% of patients have signs of bronchoobstructive syndrome. Radiologically, signs of limited

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pneumosclerosis are determined, with bronchography - deformation and expansion of the bronchi.

After repeated infectious diseases of the upper respiratory tract, bronchitis and pneumonia, signs of a chronic bronchopulmonary process are revealed. Persistent, difficult-to-treat nasopharyngeal lesion (recurrent rhinosinusitis, adenoiditis) is also typical. Some patients have chest deformity and characteristic changes in the terminal phalanges of the fingers. The main type of pulmonary changes is limited pneumosclerosis with bronchial deformity, more often bilateral. It is characterized by widespread purulent endobronchitis, which has a persistent course.

They can be unstable in their severity and localization. The discrepancy between pronounced dyspnea and relatively small physical changes in the lungs is one of the most important differential diagnostic signs that allow clinically distinguishing IBD from other chronic diseases of the bronchopulmonary system.

In the later stages of the disease, as a rule, there is a progression of shortness of breath, the formation of pulmonary heart failure due to hemodynamic disorders in the small circle of blood circulation.

As a result of a decrease in the diffusion capacity of the lungs, the development of ventilation-perfusion imbalance in patients, arterial hypoxemia is determined in the early stages of the disease only with physical exertion. As the process progresses, hypoxemia is registered at rest, accompanied by hypocapnia. Hypercapnia appears in far-reaching cases of the disease. When studying the function of external respiration, a predominantly restrictive type of ventilation disorder, a decrease in the main pulmonary volumes, is detected.

Upon termination of contact with the antigen, complete recovery is possible in a few days or weeks. With repeated contacts, relapses of the disease develop, which may be subacute in nature, remain unrecognized, which leads unexpectedly for the patient and the doctor to the transition of the disease into a chronic form. The main sign of the subacute form is shortness of breath, which persists for several weeks or months.

In the chronic form, constant shortness of breath, cough with the separation of mucosal sputum are typical in the clinic. With physical exertion, shortness of breath increases, cyanosis develops. During auscultation, intermittent crepitating wheezes are heard. Gradually the state of health worsens, weakness, fatigue, decreased appetite, weight loss, decreased motor activity appear. During the examination, the deformation of the chest is determined in the form of its flattening, changes in the type of "drumsticks" and "watch glasses" develop.

The onset of the disease is more often subacute — with a dry cough, shortness of breath during exercise, fatigue. Acute onset (in % of patients) is accompanied by febrile temperature. As the disease progresses, shortness of breath increases, the chest flattens, its excursion and circumference decreases, the amplitude of respiratory movements decreases, body weight and height lag behind the norm, deformations of the distal phalanges of the "fingers" in the form of "watch glasses" and "drumsticks" appear and increase. Acrocyanosis and cyanosis of the nasolabial triangle become permanent. During auscultation, against the background of weakened breathing, small-bubbly gentle crepitating wheezes are heard at the end of inspiration, resembling the crackling of cellophane (more often in the lower parts of the lungs).

In most children, the initial manifestations of the disease occur in the 3-4 years of life: dyspnea at rest, anemia gradually appear. At the time of the crisis, the leading triad of signs can be distinguished: hemoptysis, iron deficiency anemia, the presence of infiltrative shadows on the X-ray. The condition of patients during the period of exacerbation is severe: febrile fever, sputum with cough is rusty, with blood, respiratory failure and anemia are increasing (Hb up to 20-30 g / l and lower). With percussion, there are areas of shortening of the percussive sound, with auscultation — diffuse moist small-bubbly wheezes. It is characterized by an increase in the liver and spleen. The crisis period lasts for several days, gradually going into remission.

The diagnosis of needles is difficult to make, it is believed that it is a diagnosis of exclusion, namely, it is necessary to exclude myocardial tuberculosis, other diffuse lung diseases, secondary forms of hemosiderosis (with bleeding, mitral stenosis, vasculitis, collagenosis, etc.). In doubtful cases, a lung biopsy is indicated.

Treatment of needles depends on the period of the disease. At the time of the crisis, prednisone is prescribed 1.5-3 mg / kg per day, strict adherence to a dairy-free diet with the exception of any products containing milk protein. In remission — immunosuppressants in a maintenance dose: cyclophosphamide (2 mg / kg / day) or azathioprine (3mg/kg/day).

The prognosis of the disease is unfavorable. Patients die during the next crisis from pulmonary hemorrhage or from respiratory and heart failure. The average life expectancy is 3-5 years. However, with

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certain variants of pulmonary hemosiderosis (Heiner's syndrome), spontaneous cessation of exacerbations and cure is possible.

Diagnosis of sarcoidosis is difficult, since the clinical picture is diverse, and there are no specific samples. The diagnosis is made on the basis of the available clinical picture, followed by histological confirmation. Pathognomonic is the combination of erythema nodosum or arthritis with polycyclic enlarged mediastinal lymph nodes. The detection of hypercalcemia and altered immune status is important in the diagnosis. The leading role in the pathogenesis of sarcoidosis is played by delayed allergic reactions, the cause of which is unknown.

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