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Clinical Features of Bronchial Asthma in Children

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Abstract: Identification of clinical forms of bronchial asthma in children in the presence of causally significant allergens and concomitant allergic diseases associated with rhinoconjunctival symptoms, seizures develop rapidly, often acquiring a severe course of the disease.When bronchial asthma was combined with rhinoconjunctival symptoms, seizures developed intensively, the disease was severe and serious complications were observed.

Keywords: bronchial asthma, suffocation, allergens, cough, children.

Introduction

Bronchial asthma (BA) is one of the most common chronic diseases of the respiratory system, characterized by inflammation, obstruction and hyperreactivity of the bronchi, which disrupts the normal function of the lungs and has a significant impact on the patient's quality of life. The complexity of treatment and high prevalence of asthma make it a pressing problem in modern medicine and public health.

Among allergic diseases, bronchial asthma occupies a special place among the "diseases of the century", along with cardiovascular and oncological diseases. Bronchial asthma is an allergic inflammatory disease, a chronic inflammatory disease characterized mainly by bronchial hyperreactivity [1.2.3.5.7.8] GINA (Global Initiative for Asthma) and other accepted normative documents, it should be recognized that the development of BA is influenced by internal and external factors [1.4.6.9.10,11,12]. Among external factors, the main role is played by the influence of causative allergens. The most common phenotype of asthma is the allergic form, which is characterized by airway hyperreactivity in response to specific allergens.

Methods

1. Allergy history 2. Skin prick tests. 3. Spirometry.

Diagnosis of asthma in young children presents certain difficulties due to difficult history collection, possibly misinterpretation sounds made by the child while breathing (wheezing/wheezing should be confirmed by a specialist), variability of bronchial obstruction (in the inter-attack period during auscultation, wheezing may not be heard), inability to conduct pulmonary function test History should be collected identify the full range of manifestations over the past 3-4 months, paying special attention to those that were disturbed during the previous 2 weeks.

The study materials were 240 children aged 3-18 years who were being treated for bronchial asthma. Allergology anamnesis was collected from the children in our study. Questionnaires were collected from school-age children. The children filled out the questions in the questionnaire individually. The questionnaires were administered in 2 stages, before and after treatment. During the process of collecting the allergy history, information was also collected on the allergic diseases of the parents.

Positive sign is placed for a positive answer

1. Patient information

2. Have you had the following symptoms in the last 12 months?

- sneezing attacks, choking (yes, no)

- nasal congestion not related to a cold (yes, no)

- shortness of breath (yes, no)

- skin rashes, hives (yes, no)

In the formation and development of bronchial asthma in children under our observation, hereditary factors (69.5%), allergic diathesis (73.3%), toxicosis during pregnancy in mothers (59.6%), and artificial feeding of newborns (71.2%) play an important role.

In the children in our study, the main factors are; 1- allergic diathesis, 2- artificial feeding, 3- hereditary factors, 4- toxicosis during pregnancy in mothers. Cases of polysensitization and sensitization of the body are common. Also, symptoms of "pollen intoxication" such as headache, weakness, insomnia, nausea, diarrhea are also observed.

Results and Discussion

As a result of the research, it was found that bronchial asthma in adolescents living in Tashkent is more common in school-age children, and the disease has a specific clinical course. This is due to the high content of various allergens in the urban air (chemical factors of air pollution in Tashkent).

Skin tests from all children in our study are summarized in 1 image (Prick test results)

1 schedule

Skin appearance and wound size		Evaluation of reactions
1	Hyperemia, no ulcer	Negative (-) 3.9%
2	Hy Hyperemia without edema at the site of the test	Suspicious (+/-) 3.1%
3	Hyperemia, wound 2-3 mm	Slightly positive (+)6.2%
4	Hyperemia, wound 4-5 mm	Positive (++) 7.8
5	Hyperemia, wound 6-10 mm	Sharp positive (+++) 32.9.6%
6	Hyperemia, wound size more than 10 mm	Extremely strong positive reaction (++++) 33.1%

2 schedule. Results of subcutaneous allergic reactions

No.	Skin appearance and wound size	Evaluation of reactions	The results obtained %
1	Skin reaction as in control period	Negative (-)	10,0
2	The wound is healing more slowly than during the control period.	Doubtful (+/-)	33,4
3	The wound is 4-8mm, surrounded by erythema.	Light positive (+)	40,9
4	The wound is 8-12mm, surrounded by erythema.	Moderately positive (++)	17,2
5	The wound is 12-18 mm, surrounded by erythema.	Strong positive (+++)	16,7
6	The wound is more than 12-18 mm, surrounded by erythema, and there are additional wounds.	Extremely strong positive reaction (++++)	15,2

Asthma control testing in children was studied based on a questionnaire. Our results showed that among the children with bronchial asthma in our study, the disease was more severe in boys than in girls.

In determining the severity of bronchial asthma, the number of daytime and nighttime attacks in patients was determined, in combination with the patient's general condition, NE levels and comorbidities, in cases where the course was more severe than in isolated cases. In determining the clinical forms of atopic bronchial asthma in children, clinical symptoms were determined mainly by the number of attacks. Patients with BA severity levels, depending on the number of daytime and nighttime attacks, complained of nasal congestion, difficulty breathing, sneezing attacks (10-20 times), rhinorrhea, itching in the nose, eyes, throat, and tearing ($P<0.05$).

The clinical manifestations of bronchial asthma in children were confirmed in 78% of cases with AR - allergic rhinitis. In such patients (67.9%), similar symptoms were observed, mainly in persistent rhinitis, but, unlike allergic rhinitis, they did not have a seasonal character and were not associated with the flowering season. When seasonal allergens were detected in sick children, nasal congestion was most often observed. Rhinorrhea led to redness of the skin above the upper lip. Allergic rhinitis was accompanied by sinusitis in most cases (74.9%). The upper palate and forehead areas were involved in the inflammatory process.

Patients often complained of headaches (47.4%), sleep disturbances (32.8%), and fatigue. When the flowering season of plants ended, these symptoms did not appear either. It is known that the upper and lower respiratory tracts form a single system. Therefore, rhinitis often leads to bronchial asthma, and vice versa, allergic rhinitis was also observed in most cases (79.9%) of bronchial asthma. More than 50% of patients had hay fever and symptoms of bronchial asthma. The exacerbation of attacks was observed mainly after the patient's contact with the allergen. In cases where BA was associated with plant pollen (99.3%, $p < 0.05$), the exacerbation of symptoms was noted in the spring and autumn seasons.

In our study, the indicators of respiratory failure in children with moderate persistent and severe persistent BA were almost the same in both groups (7-11 years old, 12-18 years old). There was no difference between the indicators of respiratory failure in both groups. The index of nasal and ocular symptoms (NB and KB) was also clearly expressed. Patients suffer from symptoms such as sneezing, rhinorrhea, nasal congestion, difficulty breathing, itchy nose, throat, itchy eyes, and

photophobia. All of this negatively affects the patient's psych emotional state. In turn, psycho-emotional stress causes the emergence of new pathological processes in the systems and organs of the human body, thus further worsening the patient's condition.

In the pathogenesis of psycho-emotional stress, impaired oxidative processes, changes in sensitivity to neurotransmitters and oligopeptides are important. These biochemical changes lead to the formation of persistent emotional arousal in the central nervous system, which leads to impaired self-regulation of internal organs and body systems. Scientists have found that a lack of NO leads to impaired functioning of the cardiovascular system, internal organs, and cellular immunity.

Research results: It was found that the clinical forms of bronchial asthma in children in our study depend on the causative allergens of the disease and concomitant allergic diseases. When BA occurs with rhinoconjunctival symptoms, attacks develop rapidly, often the disease becomes severe (87.5%), and the disease often has a severe course and causes severe complications.

Conclusions

According to our results, spirometry indicators showed a significant decrease in external respiratory function in moderate-severe BA, with a forced expiratory volume of 64-78%. The daily fluctuation of the maximum expiratory rate exceeded 30%. In children with severe persistent bronchial asthma, a pronounced deterioration in the function of external respiration was detected, with an external tidal volume of <60%. The expiratory rate was also increased. The diurnal fluctuation was 30-40%, which confirms the persistence of bronchial obstruction.

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