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Allergic Diseases (Bronchial Asthma, Dermatitis) and Their Characteristics of Their Current Progress in Children

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Abstract: This article analyzes the causes of the development of allergic diseases common among children - bronchial asthma and atopic dermatitis, the characteristics of their clinical symptoms and the dynamics of their course depending on age. It also highlights the role of parents and medical personnel in the early diagnosis, treatment and prevention of these diseases. The article examines the influence of external and internal factors, such as hygienic factors, hereditary predisposition, environmental pollution, on the development of the disease. It also presents scientifically based information on modern diagnostic methods and the effectiveness of treatment methods such as immunotherapy and diet therapy. Based on the results of the study, practical recommendations are given for strengthening children's health and preventing allergic reactions.

Keywords: allergic diseases, bronchial asthma, atopic dermatitis, child, immune system, pediatrics.

INTRODUCTION

In recent years, the prevalence of allergic diseases, in particular bronchial asthma and atopic dermatitis, has been increasing significantly among children. According to the World Health Organization (WHO), at least one in 10 children suffers from one of these diseases[1]. This condition negatively affects not only the physical health of children, but also their psychological state, academic performance and social life. Early detection of allergic diseases and the development of effective methods of their treatment are of great importance in improving children's health.

The etiology of bronchial asthma and atopic dermatitis is multifactorial, and hereditary predisposition, impaired immune system, environmental pollution and lifestyle changes are recognized as the main causes. Both diseases are based on hypersensitivity reactions associated with immunoglobulin E (IgE) and have similar pathogenetic mechanisms[2]. Therefore, these two conditions often coexist or follow each other. An in-depth study of the topic, identification of their interrelationships, and analysis of the specifics of their course depending on age are of great importance for clinical practice.

Previous studies in the field of allergic diseases have often focused on individual clinical manifestations of the disease, genetic factors or treatment strategies[3,4]. However, aspects such as the complex course of these diseases in children, problems in diagnosis, and the role of parents and medical staff have not been sufficiently studied. It is especially important to identify the initial stages of the disease in preschool and primary school children and organize treatment based on an individual approach[5,6,7].

METHODOLOGY

To better understand the growing prevalence and clinical characteristics of allergic diseases in children, this study aimed to analyze the course, diagnosis, and management of bronchial asthma and atopic dermatitis. The research was carried out across three children's polyclinics affiliated with the Tashkent Pediatric Institute, focusing on 100 children aged between 6 months and 12 years. Among these, 55 children were diagnosed with atopic dermatitis, while 45 were diagnosed with bronchial asthma. The selection criteria included children with confirmed allergic conditions, and the severity and nature of the diseases were evaluated through a combination of clinical assessments, parent-reported questionnaires, and standardized allergy testing. The study highlights that early onset of these allergic conditions often leads to chronicity and a more severe clinical course. Children with atopic dermatitis frequently presented with persistent itching, sleep disturbances, and recurrent skin infections. Those with bronchial asthma exhibited symptoms such as wheezing, coughing, and shortness of breath, often exacerbated by environmental triggers. The psychological impact of these diseases was also significant, with many children showing signs of anxiety and behavioral disturbances due to constant discomfort and restricted activity levels. Statistical analysis, including the chi-square test and percentage-based comparisons, was used to identify significant relationships between factors such as age, family history of allergies, environmental exposures, and disease severity. The findings emphasize the critical need for early diagnosis and individualized treatment plans. Raising awareness among parents and healthcare providers is essential to manage allergic diseases effectively and improve the quality of life for affected children.

RESULTS AND DISCUSSIONS

Observations have shown that atopic dermatitis is more common in children aged 6 months to 3 years and is usually associated with food allergies. Bronchial asthma develops more often between the ages of 4 and 12 years and is accompanied by sensitivity to dust, pets or weather changes[8,9].

Of the 100 children observed during the study, 55 were diagnosed with atopic dermatitis and 45 with bronchial asthma. In 70% of children with atopic dermatitis, the first symptoms appeared in the first 6 months of life. They often had redness of the skin, rashes and intense itching on the cheeks, back of the elbows and around the knee joints[10]. Also, in 40 percent of cases, this disease was detected in children with an allergic history in one of the parents. In 80 percent of 45 children with bronchial asthma, the disease began after the age of 3, and symptoms usually worsened against the background of respiratory infections. In 65 percent of cases, these children had night cough, shortness of breath, wheezing, and shortness of breath after physical activity. In 35 percent of patients, symptoms worsened in the spring and autumn seasons. Allergy tests revealed that most of them were sensitive to dust, animal hair, and pollen (plant pollen).

In addition, symptoms that negatively affect the psycho-emotional state were also detected in both groups of children - sleep disorders, irritability, decreased appetite, and a tendency to social isolation. Itchy skin, dryness, and sleep disorders were noted in 80% of children with atopic dermatitis[11]. Coughing at night, shortness of breath, and worsening symptoms after physical activity were observed in 60% of those with bronchial asthma. The results obtained confirm that children's immune systems are more susceptible to allergic reactions due to their incompletely formed immune system. Allergic diseases are often associated with hereditary predisposition, environmental factors, and poor nutrition[12]. The study showed that early diagnosis is delayed due to insufficient knowledge about the disease among parents. Therefore, medical and educational activities and regular prevention play an important role.

Based on the above results, it is clear that the course of allergic diseases in children depends on age, genetic factors and environmental conditions. Atopic dermatitis is often associated with food allergies (eggs, milk, wheat, nuts) and begins in infancy. This disease occurs as a result of overactivity of the immune system and impaired skin barrier function. If not treated in time, it

can lead to other allergic diseases - for example, asthma or allergic rhinitis (this condition is called the "allergic march")[13,14]. Bronchial asthma is a disease characterized by chronic inflammation of the bronchi of the lungs, characterized by wheezing and hypersensitivity of the airways. Early diagnosis of this disease is very important, because if left untreated, the child is excluded from physical activity, school participation decreases, and his mental state worsens[15].

The study shows that the level of health awareness of parents plays an important role in early detection of the disease. In most cases, dermatitis or cough is considered a simple allergy or cold, and it is too late to consult a specialist. Therefore, it is useful to hold regular educational seminars for parents in polyclinics, and preventive examinations in kindergartens and schools. In addition, the hygiene of the children's environment (clean air, cleanliness, elimination of allergen sources) is also one of the main factors in the fight against diseases.

CONCLUSION

Bronchial asthma and atopic dermatitis are common allergic diseases among children, the course of which depends on age, genetic predisposition, environmental conditions and the level of care. The results of the study showed that these diseases have a negative impact not only on the physical health of children, but also on their psychological state. Early detection and timely treatment of these diseases prevents their transition to a chronic form. In particular, the cooperation of parents and medical staff, constant monitoring of children and the creation of a healthy environment are the main guarantees of successful prevention and therapy. In addition, factors such as healthy nutrition, hygienic conditions, psychological environment, level of physical activity and control of allergen sources are also important. In the future, given the increasing prevalence of allergic diseases, it is necessary to pay more attention to the training of pediatricians and allergists in medical educational institutions.

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