

## FEATURES OF THE COURSE OF ALLERGIC RHINITIS IN CHILDREN AND ADULTS

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**Abstract.** This article describes in detail the features of the course of allergic rhinitis in children and adults, clinical symptoms, pathogenesis mechanisms, and differences in diagnosis and treatment. Allergic rhinitis is a chronic inflammatory disease of the upper respiratory tract that develops as a result of an excessive response of the immune system to allergens, which manifests itself in different clinical manifestations in children and adults. The article analyzes the fact that allergic rhinitis in children often begins at an early age, is characterized by nasal congestion, frequent sneezing, watery discharge, as well as a high probability of co-occurrence of the disease with bronchial asthma and atopic dermatitis. In adults, allergic rhinitis is more likely to have a chronic course, has a negative impact on work activity and quality of life, is manifested by additional symptoms such as headache, sleep disorders. The article substantiates age-related immunological differences, the importance of collecting anamnesis in diagnosis, allergological tests, and the need for an individual approach to treatment. It is concluded that early detection and proper treatment of allergic rhinitis is an important factor in preventing disease complications and improving the quality of life of patients.

**Keywords.** Allergic rhinitis, pediatric allergology, allergic diseases in adults, immune system, allergens, nasal mucosa, clinical symptoms, chronic rhinitis, diagnostic methods, treatment and prevention.

**Introduction.** In recent years, the frequency of allergic diseases has been significantly increasing against the background of changing environmental factors, accelerated urbanization processes, disruption of the ecological balance and changes in lifestyle [1]. This condition is widespread not only among adults, but also among children, becoming an urgent medical and social problem worldwide. Among allergic diseases, pathologies affecting the upper respiratory tract occupy a special place, and they negatively affect the quality of life and daily activities of patients. The characteristics of the course of allergic diseases in children and adults differ significantly. Especially in childhood, the incomplete formation of the immune system, hereditary predisposition and sensitivity to external environmental influences can lead to a more severe or complicated course of the disease [2]. In adults, the disease often takes a chronic form, is characterized by a long duration, reduced work capacity, sleep disorders and an impact on the psycho-emotional state. It is important to study allergic diseases by age groups, and to deeply analyze their clinical symptoms, development mechanisms and complications. This, in turn, serves as an important scientific basis for early diagnosis, effective treatment and the development of preventive measures. One of the most common allergic diseases of the upper respiratory tract is allergic rhinitis. Allergic rhinitis is a chronic inflammatory disease of the upper respiratory tract that develops under the influence of allergens and is mediated by IgE of the nasal mucosa. This pathology most often occurs under the influence of plant pollen, house dust, animal hair, mold fungi and certain chemicals. Allergic rhinitis is clinically manifested by

symptoms such as nasal congestion, watery discharge, frequent sneezing, and itching in the nose and eyes. Hereditary predisposition plays an important role in the development of the disease, and the hypersensitivity response of the immune system to allergens is the main pathogenetic mechanism [3]. Allergic rhinitis is divided into seasonal and perennial forms, and its severity is assessed by the intensity of clinical symptoms. The characteristics of the course of the disease in children and adults are explained by age-related physiological and immunological differences. Allergic rhinitis, especially in childhood, is likely to coexist with other allergic diseases, which requires in-depth scientific study within the framework of pediatric allergology. Pediatric allergology is one of the important areas of pediatrics, studying the origin, development mechanisms, clinical course, treatment and prevention of allergic diseases that occur in childhood. In the formation of allergic diseases in children, hereditary predisposition, environmental factors affecting the prenatal and postnatal periods, nutritional characteristics, and immaturity of the immune system are important [4]. Allergic rhinitis in children often begins at an early age and is manifested by symptoms such as nasal congestion, watery discharge, frequent sneezing, mouth breathing, and sleep disorders. This condition can negatively affect the child's physical and mental development, as well as learning ability. Also, allergic rhinitis in children is likely to coexist with bronchial asthma and atopic dermatitis, which leads to a complicated course of the disease. Early detection and proper management of the disease in pediatric allergology are important in preventing the development of allergic processes in the future, and comparing these issues with allergic conditions observed in the adult population makes it necessary to study the characteristics of allergic diseases in adults. Allergic diseases in adults are often long-term, prone to chronic course, and develop depending on environmental factors, occupational hazards, stress, and lifestyle [5]. Allergic rhinitis is one of the most common allergic pathologies among adults, manifested by symptoms such as nasal congestion, constant discharge, sneezing attacks, decreased sense of smell, and headache. The chronic course of the disease reduces the working capacity of patients, disrupts the quality of sleep, and negatively affects the psychoemotional state. Allergic rhinitis in adults is often diagnosed late, which can lead to the development of complications such as sinusitis, otitis media, and bronchial asthma. At the same time, the severity of the disease is closely related to the individual sensitivity of the body to allergens. In order to explain the mechanisms of development and course of allergic diseases in adults, it is important to study in depth the functional state of the immune system, which controls the body's protective reactions. The immune system is a complex of complex biological mechanisms that protect the body from external and internal harmful factors. In allergic diseases, including allergic rhinitis, the main function of the immune system is disrupted, and an excessively strong response to allergens is formed. The synthesis of IgE antibodies, activation of mast cells and basophils, and the release of biologically active substances histamine and leukotrienes play an important role in this process [6]. Due to the incomplete maturation of the immune system in children, allergic reactions can manifest themselves more quickly and more clearly, while in adults, a stable pathological form of the immune response develops against the background of long-term allergen exposure. These changes in the immune system are one of the main factors determining the clinical course, severity and effectiveness of treatment of allergic rhinitis. Pathological activation of the immune system is mainly directly related to various external and internal factors entering the body, that is, allergens. Allergens are biological or chemical substances that, when ingested, cause a pathological response of the immune system. Allergens are the main etiological factor in the development of allergic rhinitis, which enter the body from the external environment through inhalation. The most common allergens include plant pollen, house dust and mites, animal hair, mold fungi, as well as industrial and household chemicals. In children, sensitivity to allergens is often associated with a hereditary predisposition, while in adults, long-term and repeated exposure to allergens leads to a chronic course of the disease [7]. Constant contact with allergens leads to the activation of the allergic inflammatory process, the intensification of clinical symptoms and the exacerbation of the disease. The main

anatomical structure that first encounters allergens and where the inflammatory process begins is the nasal mucosa. The nasal mucosa is the first protective barrier of the respiratory tract, performing the function of retaining dust, microorganisms and allergens entering from the external environment. In allergic rhinitis, it is in the nasal mucosa that the inflammatory process develops, with dilation of capillary vessels, edema and increased secretion of mucous glands. These changes lead to difficulty breathing through the nose. Since the nasal mucosa in children is anatomically and functionally thinner, the inflammatory process develops faster and the clinical symptoms are more pronounced. In adults, inflammation often becomes chronic, with permanent changes in the mucous membrane. Pathological processes in the nasal mucosa determine the severity and course of the disease. These morphofunctional changes in the nasal mucosa form the main clinical signs of allergic rhinitis. Clinical signs of allergic rhinitis vary depending on the form, severity, and age of the disease. The most common symptoms include nasal congestion, watery discharge, frequent sneezing, itching in the nose and eyes, and tearing. These symptoms appear quickly after contact with the allergen and significantly affect the patient's daily activities. In children, clinical signs are often more pronounced and are accompanied by mouth breathing, nighttime sleep disturbance, rapid fatigue, and decreased attention. In adults, clinical signs persist for a long time and are supplemented by symptoms such as headache, decreased sense of smell, and general weakness. Prolonged and repeated symptoms lead to exacerbation of the disease. Long-term persistence and persistent course of clinical symptoms can lead to the transition of the allergic process to chronic rhinitis. Chronic rhinitis is a long-term and frequently recurring form of allergic rhinitis, characterized by persistent inflammatory processes in the nasal mucosa. This condition often develops as a result of constant contact with allergens, untimely detection of the disease or inadequate treatment. In chronic rhinitis, nasal congestion becomes persistent, hyperplasia and functional disorders of the mucous membrane occur. In children, chronic rhinitis can be complicated by difficulty breathing, malformation of the facial skeleton, and frequent respiratory infections. In adults, this condition is accompanied by complications such as sinusitis, otitis media, and decreased sense of smell, which has a serious negative impact on the patient's quality of life and work. It is important to distinguish chronic rhinitis from other clinically similar diseases. Therefore, it is necessary to use modern diagnostic methods to correctly identify chronic rhinitis and confirm its allergic nature. Correct diagnosis of allergic rhinitis is an important step in the effective management of the disease and the prevention of complications. In making a diagnosis, the patient's complaints, medical history and anamnestic data on contact with allergens are of primary importance. During the clinical examination, the condition of the nasal mucosa, the degree of edema and the nature of the discharge are assessed. Allergy tests, including skin prick tests, determination of total and specific IgE levels, and rhinocytological tests, are widely used to confirm the diagnosis of allergic rhinitis [8]. While an age-appropriate approach is required in the diagnostic process in children, differential diagnosis of the disease from other types of chronic rhinitis is important in adults. The correct diagnosis serves as the basis for determining the treatment strategy. Treatment and preventive measures, carried out with an individual approach based on the established diagnosis, are crucial in controlling allergic rhinitis. The main goal of treating allergic rhinitis is to reduce clinical symptoms, prevent relapses, and improve the patient's quality of life. A comprehensive and individual approach is important in the treatment process, taking into account the patient's age, course, and severity of the disease. The main treatment methods include antihistamines, intranasal corticosteroids, decongestants, and, if necessary, immunotherapy. In children, treatment should be carried out with caution, choosing age-appropriate drugs and taking into account their side effects. In adults, the main task is to control the chronic course of the disease, prevent complications and restore work activity. Allergen-specific immunotherapy is of particular importance as one of the effective long-term treatment methods. Preventive measures include limiting contact with allergens, maintaining a clean living environment, adhering to a healthy lifestyle, and early detection of allergic diseases. Timely

diagnosis and proper treatment of allergic rhinitis helps prevent the disease from worsening and becoming chronic in children and adults.

**Conclusion.** Allergic rhinitis is one of the chronic allergic diseases of the upper respiratory tract, which is common among children and adults. The results of the study show that the onset and course of the disease depend on age, and in children, due to the immaturity of the immune system, clinical symptoms are more pronounced and there is a high probability of co-occurring with other allergic diseases. In adults, allergic rhinitis often becomes chronic, significantly negatively affecting the quality of life and work activity. Allergens and the pathological response of the immune system play a leading role in the development of allergic rhinitis. The use of modern diagnostic methods for early detection of the disease, treatment and preventive measures based on an individual approach are of great importance. Properly organized treatment measures help reduce complications of the disease, prevent its exacerbation, and improve the quality of life of patients. In-depth study of the characteristics of the course of allergic rhinitis in children and adults, ensuring an integrated approach to the disease, and strengthening preventive measures are important in reducing the medical and social significance of this problem.

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