

## PREVENTION OF ALLERGIC DISEASES IN CHILDREN BORN TO MOTHERS WITH ALLERGIC DISEASES

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**Abstract.** Allergy occupies a special place in medicine, and therefore this work reflects aspects of the prevention of allergic diseases in children born to mothers with allergic diseases, based on a literature review.

**Keywords:** children, aspect, diseases, complications, anamnesis.

### Introduction

Allergic diseases remain one of the most urgent problems in pediatrics and clinical medicine as a whole. According to literature sources, a family history burdened by allergy is currently recognized as a major risk factor and predictor of allergy. However, sensitization does not always have clinical manifestations of allergy. Moreover, the absence of a family history of allergy or low levels of sensitization does not exclude the diagnosis of allergic disease. Cases have been described where healthy children were born to allergic parents, and at the same time, allergy was observed in children with no allergic family history. This phenomenon dictates the need to analyze multiple ante-, intra-, and postnatal factors to determine the most significant ones influencing not only the development of clinical manifestations of allergy but also the corresponding changes in cellular and humoral immune responses.

In recent decades is one of the most urgent problems of pulmonology, with a constant increase in the number of patients, among adults and children. The data of epidemiological studies in recent years indicate an increase in the prevalence of AD in pregnant women, the frequency of which ranges from 1 to 13.8%. In the conditions of modern society, pregnancy is formed against the background of environmental and socio-economic instability, westernisation of life, which is further aggravated by the presence of bronchial asthma in patients, in connection with which the peculiarities of its course in pregnant women at the present stage are observed. According to the data of retrospective studies, in one third of patients the course of BA in the gestational period worsens, in one third - becomes less severe, in one third - does not change. And although some researchers have noted a predominant improvement in the course of AD during pregnancy, most authors consider pregnancy and AD as mutually influential conditions, with unfavourable course of which there is a mutual aggravation.

ANS plays an integrating role in the implementation of adaptation mechanisms to the gestational period, creating conditions for the normal course of pregnancy and foetus carrying. It is known that nonspecific reactions of short-term adaptation, replaced by long-term changes in the respiratory, cardiovascular and other systems of the mother's body, as well as in the forming foetoplacental complex, occur already in the first 3 trimesters of pregnancy, affecting the development of the foetus, the state of health of the newborn. A vicious circle is created: sick mother - sick child - sick adolescent - sick mother. Pathology of the foetus and newborn predetermines both the postnatal development of the child and adult health.

When developing preventive measures to reduce the risk of allergy development in offspring, it is necessary to know the peculiarities of the course of AD in the mother during pregnancy. Clinical course of AD in patients during pregnancy According to our data, in 62.1% of the examined pregnant women, mild AD (BALT) prevailed, in 30.6% - moderate (BAST), in 8.3% - severe (BATT), which reflects the general structure of the distribution of AD by severity in the population. Hereditary aggravation by allergic diseases was traced in 40.7% of patients, with bronchial asthma in 35.5%, including 59.2% on the maternal side. Since AD is a multifactorial disease, the realisation of clinical symptoms may occur at any age period. The occurrence of the first attacks of suffocation in childhood was noted by 33.4% of pregnant women, in the pre- and pubertal period (11-19 years) - 30.7% of patients, in the period of reproductive activity (20-30 years) - 20.7% of women, over 30 years - 2.1% of patients.

Allergic form of AD was diagnosed in 62.4% of patients, 10.4% - non-allergic, 27.2% - mixed. The predominant causative allergens were: household allergens - in 52.8% of patients, pollen allergens - in 43.1%, food allergens - in 21.4%, epidermal allergens - in 19.3%. A high percentage of drug allergy was noted in 41.7%, in the structure of which antibacterial drugs and vitamins occupied the leading places. Polyvalent sensitisation to several groups of allergens was detected in the majority of patients (74.1%). Unfavourable environmental conditions, infectious-viral diseases, passive smoking and many other provoking factors undoubtedly contribute to the increase in the incidence of atopic diseases, but cannot definitively explain the causes of this phenomenon. The results of numerous genetic studies explain the role of certain genes and hereditary predisposition in the development of atopic process.

However, the short time period over which the spike in allergic morbidity has occurred indicates the central role of a complex interaction between environmental factors and hereditary predisposition. Moreover, most environmental factors determine the development of atopy in the prenatal and early childhood period. The authors note that, to date, the variants of immune response during the formation of allergic (atopic) status in the neonatal period remain poorly studied—when potentially reversible changes become irreversible.

The fragmented coverage of the problem of early development of allergic (atopic) status in publications, or its consideration mainly from the standpoint of later childhood, leaves the onset and dynamics of atopy in the neonatal period insufficiently explored. Consequently, modern recommendations for the primary prevention of allergy remain rather nonspecific. The dynamics of allergic processes during the first year of a child's life are insufficiently studied, which is crucial for substantiating the strategy and tactics of secondary prevention of atopy aimed at preventing the clinical manifestation of atopic processes after sensitization has occurred. Currently, in domestic pediatrics, there are no functional prognostic markers of the risk of developing bronchial asthma in infants, including those with skin manifestations of allergy.

Foreign and domestic researchers have pointed out that the search for solutions to preserve the health of the mother and unborn child, reduce the risk of hereditary predisposition to allergy in the child, and protect the child's life and health starting from the antenatal period corresponds to the modern initiatives of a new medical field — antenatal pediatrics. This field was founded by leading Russian and international pediatric scientists.

A review of the literature has shown that bronchial asthma is one of the most common diseases in modern society. It is not only the most prevalent disease among children and adults but also one whose incidence and severity continue to increase. The first manifestation of allergy in early childhood is most often atopic dermatitis. In pediatric dermatology and general pediatric

practice, atopic dermatitis is diagnosed in about one-third of patients during outpatient consultations.

Clinicians have noted that when atopic dermatitis begins at an early age, it rapidly progresses to a chronic course in children. Children with atopic dermatitis suffer from such manifestations of the disease as multiple excoriations, itching, and skin inflammation, which are the cardinal symptoms of this condition. Family stress associated with caring for a child with moderate atopic dermatitis significantly exceeds the stress experienced by families caring for a child with type 1 diabetes mellitus.

In addition, the financial burden of this disease is considerable, as the treatment of atopic dermatitis poses a serious economic challenge for both families and healthcare systems as a whole. Given the global technogenic changes in the environment, the increasing number of factors that induce allergy and alter the clinical picture of the disease, as well as the parallel growth in the prevalence of allergic disorders, the main emphasis today should be placed on primary prevention of allergy — that is, measures aimed at preventing the development of allergic or atopic status.

This requires deepening and expanding the search for possible tools to influence the process of formation and/or modulation of the allergic type of immune response during the early ontogenesis of the child — at the ante-, intra-, and possibly postnatal stages. Most researchers predict a further increase in the prevalence of allergies, which necessitates the search for new solutions, in particular the implementation of modern preventive methods.

The most effective approach is primary prevention, aimed at preventing the onset of allergy, while secondary and tertiary prevention focus on alleviating the severity or reducing the risk of complications in already existing allergic diseases. Since the immune system begins to form in utero, sensitization may occur even during pregnancy, and therefore preventive measures should be initiated during this period.

Numerous studies have shown that when allergens affect the body of a pregnant woman, T-cell immunity is activated in the fetus. This contributes to the earlier manifestation of an atopic immune response in the newborn, especially in those with a genetic predisposition to the development of atopic diseases. Therefore, timely diagnosis and control of allergic pathology in women are essential for improving pregnancy outcomes and minimizing the risk of allergic diseases in the child.

The authors confirm that the greatest influence on the development of allergic reactions in newborns and young children is exerted by maternal diseases and pregnancy complications. Among respiratory pathologies in pregnant women, bronchial asthma occupies a leading place, occurring in 0.4–4.5% of pregnancies. A common complication of pregnancy in women with bronchial asthma is the development of fetoplacental insufficiency, gestosis, and the threat of preterm labor. The cause-and-effect relationship between maternal morbidity and the health of their newborns is beyond doubt.

**Conclusion.** A vicious circle is formed: sick mother – sick child – sick adolescent – sick mother. Fetal and neonatal pathology predetermines not only postnatal child development but also the health of the adult individual. Thus, an analysis of the literature has demonstrated the importance of studying allergic pathologies in mothers, as this provides the foundation for implementing preventive measures in the future.

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