



## BRONCHIAL ASTHMA: MODERN VIEWS OF RISK FACTORS

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*The most significant factor for the development of bronchial asthma is atopy. Atopy is a tendency to produce increased amounts of IgE in response to exposure to environmental allergens and is inherited maternally in an autosomal dominant pattern. In population studies, it has been shown that the majority of children and adults with proven bronchial asthma had atopy. Genetic factors in bronchial asthma have received special attention; clinical and genealogical analysis reveals a hereditary nature of asthma in one-third of patients. At least three groups of genes are known to be responsible for the control of allergic sensitization and total IgE levels (atopy genes), bronchial lability (bronchial hyperreactivity genes) and the development of inflammation in asthma [12,13,14].*

**Keywords:** *bronchial asthma, atopy, heredity, sensitization, respiratory tract;*

The following groups of factors in the development of the disease are distinguished:

- 1) Predisposing factors - determine an individual's susceptibility to the disease, including atopy status and aggravated heredity.
- 2) Causative factors sensitize the respiratory tract and cause the disease (inhalant allergens and chemical sensitizers).
- 3) Aggravating factors promote exacerbation and increase the propensity to form the disease (smoking, air pollution, acute respiratory infections, dietary patterns).



4) Triggers are the triggering factors of the disease.

They themselves can not cause bronchial asthma, but if it is - can lead to its exacerbation (eg, physical activity, cold air, irritating aerosols, odors, emotions, etc.).

Asthma that begins in childhood is more likely to be inherited than asthma that begins in adulthood. If one parent has the disease, the child has a 20-30% chance of having the disease, and if both parents have the disease, the probability rises to 75%. In childhood, boys are sick more often than girls, which is probably due to a narrower respiratory tract and increased tone of the bronchial tree in boys; the differences disappear by the age of 10 years, when the incidence is the same [2]. Bronchial asthma is a heterogeneous disease characterized by chronic airway inflammation, the presence of respiratory symptoms such as wheezing, dyspnea, chest congestion and cough that vary in timing and intensity, and manifest together with variable airway obstruction [1,2,3].

Household allergens - house mites, animal allergens, cockroach allergens and fungi. In 1964, Dutch scientists stunned the world with the news that a major component of house dust is the house mite. The house dust mite is the most common household allergen in the world. Its allergens are found in the body, secretions, products of life and make up the bulk of house dust, they can be found on sloughed skin of humans and animals, on the floor, with mites tending to get deeper into carpets, upholstered furniture. The condition for growth is air temperature in the range of 22-26 ° C and relative humidity of more than 55%. At temperatures below 10° C they die, but their body particles are also trigger factors for allergies [7,8,9].

The main symptoms of tick allergy:

- sneezing and wheezing coming on immediately in the morning; - onset of symptoms when making the bed;
- improvement outside the home.

Mold fungi are tiny plants with no roots or stems and reproduce by releasing spores into the surrounding air. Cheese, beer, dried fruit, stale bread can contain large amounts of mold. Animal allergens are prevalent in saliva, feces, and sloughed epithelium. Cats are powerful sensitizers, the main allergen is found in the skin and in



the secretion of sebaceous glands. Even after the cat has been removed from the home, the cat allergen lingers for months. Allergic sensitization to dogs is not as common. Allergization to cockroaches may be more common than to house dust for some areas. About 83% of the patients had had contact with cockroaches at the time of interview, of which more than 10% clearly attributed the exacerbation of the disease to the presence of cockroaches in the dwelling, and more than one third of the patients had positive skin tests for cockroach allergen. The most common of the external allergens is pollen. Allergens are found mainly in the pollen of trees, grasses, and weeds. Starch granule particles are released from pollen, especially after heavy rains, which seems to be the cause of bronchial asthma exacerbation. Tree pollen predominates in early spring, grass pollen in late spring and summer, and weed pollen in summer and fall [4,5,6,7,8,9].

Nonspecific triggers, widely distributed in the environment, are also serious stimulators of bronchial asthma, as they increase the risk of disease development when exposed to a causative factor and increase The three main air pollutants are sulfur dioxide, nitrogen dioxide and ozone. Ozone, one of the main components of smog, is formed when automobile exhaust products are exposed to sunlight. Viral infections (acute respiratory infections) are among the strongest of all triggers. It has been proven that there is a temporal relationship between acute respiratory viral infections and the development of bronchial asthma at debut, as well as disease exacerbation and acute respiratory infections. Similar to the effect of passive smoking, acute respiratory viral infection is considered as a risk factor for bronchial asthma [1,2,3,7,8,9].

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