HYPERSENSITIVITY TO MOSQUITO ALLERGENS: CLINIC, DIAGNOSIS, TREATMENT, PREVENTION

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Abstract. The true prevalence of allergy to mosquitoes and many other types of insects is unknown, since practical allergology currently lacks a sufficient list of insect allergens for diagnosing this type of allergy. However, it has been established that allergic reactions to the bites of blood-sucking insects occur in 17-20 % of people suffering from atopic diseases. The occurrence of such an allergic reaction can be observed both in adults (most often between the ages of 16 and 35) and in children. The main source of mosquito allergens is their saliva, which enters the human body as a result of the bites of these insects. In addition, during a mosquito bite, it is possible to enter the human body and the products of the insect's vital activity, which can also cause sensitization of the body to these antigens. To date, 12 polypeptides from the saliva of the mosquito *Aedes aegypti* (Mosguitoes) have been described and their allergenic properties have been proven. A number of studies have revealed cross-reactivity of mosquito allergens with allergens of other arthropods, in particular, individuals with hypersensitivity to the venom of wasps, bees, dust mites, cockroaches and shrimp may be susceptible to hypersensitivity reactions due to contact with Aedes aegypti. At the basis of the pathogenesis of allergy to mosquitoes, as well as to other non-stinging insects, are both IgE-induced reactions of the immediate type, and allergic reactions of the immunocomplex and delayed types. That is why the clinical manifestations of allergy to mosquitoes can be different and have a local, systemic or mainly visceral (with damage to certain organs and tissues) character. With a local allergic reaction, swelling and hyperemia of the skin at the site of the bite, pronounced skin itching, usually develop. In the late phase of the IgE-induced reaction, these symptoms are observed 3-12 hours after the bite. Systemic allergic reactions in this type of allergy are identical (mild, moderate, severe, anaphylactic shock) to those observed in hymenoptera insect stings. Evidence of the presence of allergy to mosquitoes is the connection of clinical manifestations of an allergic reaction with a mosquito bite, the presence of positive skin tests (if they are available) with extracts of allergens from mosquito saliva, as well as the presence of specific IgE-antibodies to the mosquito allergen in the blood serum of patients. Treatment of patients with mosquito allergy consists of providing emergency care for systemic allergic reactions, usage of second-generation antihistamines, local corticosteroids and allergen-specific immunotherapy. Prevention of mosquito bites, especially in humans with allergy to mosquito, is key and is accomplished primarily through physical barriers and chemical repellents.

Key words: mosquitoes, hypersensitivity, mosquito allergens, clinical manifestations, diagnosis, treatment, prevention.