

18. WHEAT-DEPENDENT EXERCISE-INDUCED ANAPHYLAXIS



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Introduction. Wheat-dependent exercise-induced anaphylaxis (WDEIA) is a rare food allergy that can lead to severe anaphylactic reactions. The reactions usually occur 1–4 hours after consuming wheat, followed by physical activity. The omega-5 gliadin protein is responsible for WDEIA.

Case statement. The patient is a 25-year-old man who has experienced recurrent wheals localized on the chest, abdomen, back, limbs, along with auricular, head, and neck pruritus for the last five years, after the consumption of specific food (pizza, burgers), observed especially if after-meal physical activity was performed. If the ingredients are separately consumed, the clinical manifestations do not present themselves. When there is no after-meal physical activity involved, the wheals are present, but in a smaller number. The patient administers non-sedating H1-antihistamines (cetirizine) at the first manifestations of urticaria. In cases of more severe episodes, the patient seeks emergency care, where intravenous fluids are administered (the patient cannot specify the names of the medications). In addition, the patient has been suffering from clear rhinorrhea, and paroxysms of sneezing in the early spring-summer season. The patient underwent laboratory tests, including the ALEX (ELISA-based in-vitro multiplex allergy) test, which revealed a positive analysis for Tri a 19 omega-5-gliadin (wheat major allergen). Other positive allergens: Cyn d 1 (scutch grass), Lol p 1 (ryegrass), Phl p 1 (timothy grass). Other laboratory tests included high total IgE levels, a normal complete blood count, normal thyroid hormones, and anti-thyroid antibodies, and low DAO (diamine oxidase) levels. The patient was diagnosed with wheat-dependent exercise-induced anaphylaxis (WDEIA) and allergic rhinitis. The recommendations include maintaining a wheat-free diet indefinitely, carrying an epinephrine auto-injector, having corticosteroid and non-sedating H1-antihistamine tablets on hand, and implementing measures for the control of seasonal rhinitis manifestations, such as intranasal corticosteroids.

Discussions. WDEIA is a rare form of anaphylaxis, and its manifestations can range from chronic urticaria to more severe reactions, including anaphylaxis. Treatment for wheat-dependent exercise-induced anaphylaxis involves a wheat-free diet and using adrenaline in cases of severe allergic reactions.

Conclusion. Testing for specific IgE (sIgE) to omega-5-gliadin should be considered in patients with exercise-induced anaphylaxis. WDEIA should be included in the differential diagnosis when evaluating patients with symptoms resembling exercise-induced anaphylaxis.

Keywords. Wheat allergy; omega-5-gliadin; exercise-induced anaphylaxis.