A case of Food-Dependent Exercise Induced Anaphylaxis (FDEIA) – Cholinergic urticaria overlap syndrome in a 20-year-old football player

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Background: Exercise-induced anaphylaxis (EIA) is a rare disorder in which anaphylaxis occurs after physical exercise. In a subset of exercise-induced anaphylaxis, named food-dependent exercise-induced anaphylaxis (FDEIA), anaphylaxis only develops if exercise is performed within a few hours after eating a specific food. Cofactors, other than food are also described. Primarily differential diagnosis is made with cholinergic urticaria, a micropapular type of urticaria. To complicate things exercise induced anaphylaxis can sometimes aggravate pre-existing cholinergic or cold urticaria and there is also a variant – type of FDEIA that resembles cholinergic urticaria and shares pathogenic mechanisms with it.

Report: We present the case of a 20 years old football player who experienced six episodes of acute urticaria in the last 6 months prior to the presentation. Most episodes were related to physical exercise (jogging) but he also reported an episode with intense pruritus and micropapular urticaria during sauna bathing. Interestingly he described pruritus that developed every time he went running (daily). The last episode showed different clinical aspect, associated tachycardia, dyspnea and colicky pain and occurred while exercising (jogging), 6 hours after eating pizza. A suspicion of exercise-induced anaphylaxis with possible associated food co-factor was raised.

Paraclinical work up showed high levels of Total Ig E (440 IU/mL; cut off limit 100 IU/mL) and raised levels of omega 5 gliadin (FEIA: 3.33 kU/L, for a cut off value of 0.35 kU/L). A diagnostic of FDEIA, in an atopic patient was made. The patient was advised to avoid eating food that contained gluten and an emergency kit was prescribed. During the follow up period the patient did not experience other anaphylactic episodes although he continued to report mainly pruritus after jogging occasionally associated with minor micropapular urticaria. An effort test was performed.

Clinical Relevance of Report: In the present case, although a diagnostic of FDEIA was made guided by the presence of raised omega 5 gliadin sIg E and complete avoidance of gluten protected against anaphylaxis, the patient continued to experience pruritus and sometimes mild eruption during jogging – suggesting a FDEIA – cholinergic urticaria overlap syndrome.

Statement of Consent for Presentation and Publication: Informed consent for presentation and publication was obtained.