



Food-dependent, exercise-induced IgE-independent anaphylaxis

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We present an atypical case of food-dependent, exercise-induced anaphylaxis without specific IgE.

Female patient, caucasian, age 39 years, from Rio de Janeiro, Brazil, with a history of chronic perennial rhinoconjunctivitis since the age of 8 years.

She reports that recently she is having recurrent episodes of laryngeal edema, periorbital and perioral angioedema, and diffuse giant urticaria after eating shrimp approximately one hour after exercising. She is the owner of a seafood restaurant and often eats shrimp and other shellfish without any difficulties. She practices aerobic exercises daily and does not have anaphylaxis when she does not eat shrimp prior to exercise, or when she eats foods not containing shrimp including other crustaceans (crab and lobster), fish and mollusks. There is a close association between eating shrimp and exercising leading to a full blown episode of anaphylaxis. No drug allergies.

On physical examination bilateral nasal polyps were detected with anterior rhinoscopy. No urticaria pigmentosa. Normal vital signs, pulse oximetry 98%, and proportional height and weight.

The following laboratory exams were all negative or within the normal range: specific IgE for shrimp, crab, lobster, cow's milk, wheat, cockroaches, *Dermatophagoides pteronyssinus*, *Dermatophagoides farinae*, *Blomia tropicalis*, *Aspergillus fumigatus*, and cats; total serum IgE, serum tryptase, CBC, differential, platelets, ESR, CRP, serum C3, C4, CH100, ANCA (c and p), ANA, anti-double stranded DNA, anti-RNP, anti-SM, anti-Jo-1, rheumatoid factor, anti-CCP, anti-La (SS-B), anti-RO (SS-A), IgG and IgM anti-cardiolipin, VDRL and FTA-ABS.

The patient was instructed on exercising always accompanied by someone, to carry an epinephrine auto-injector, to have a medical alert, and to not exercise before and especially 4 to 6 hours after eating shrimp, to avoid aspirin and NSAIDs, and also to not exercise outdoors when the weather is too cold, warm or humid, and to have an emergency plan ready in case of anaphylaxis.

For her rhinoconjunctivitis the following treatment was prescribed: fexofenadine, intranasal fluticasone furoate and olopatadine eyedrops. She became asymptomatic and did not present any other anaphylactic episodes. She often continues to eat shrimp and exercises daily, but never the two together, and always with an interval of at least 4 to 6 hours.

This is an atypical case of food-dependent, exercise-induced anaphylaxis solely to shrimp but IgE-independent, and without cross-reactivity to other crustaceans.

Exercise-induced anaphylaxis should be part of the differential diagnosis of anaphylaxis.¹⁻³

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No conflicts of interest.

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