

## IMMUNOLOGICAL GROUNDS ON EXERCISE-INDUCED FOOD AND PHYSICAL ALLERGIES

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**Purpose:** It is well known that physical activity is beneficial for people with positive results for physical status and mental wellbeing. However, physical exercise decreases the immune response and may induce an allergy anaphylaxis at some situation as follows. A common example is exercise-induced asthma, exercise-induced urticaria, exercise-induced anaphylaxis and FDEIAn. Generally, anaphylaxis is a severe, potentially fatal, hypersensitivity reaction of rapid onset. It is a dramatic clinical emergency. There are lots of etiologic factors of anaphylaxis, the principal immunologic triggers are foods, insect stings, and drugs. In recent, physical exercise is also related with the anaphylaxis. In this paper, we present the current views of physiological mechanisms underlying physical anaphylaxis within the context of exercise immunology. we also deal with a detailed two kinds of EIA (exercise-induced asthma, exercise-induced anaphylaxis) and exercise prescription and medical treatment for exercise-induced asthma, exercise-induced anaphylaxis and CU (chronic urticaria).

**Methods:** At first, we analysed and presented the causes, symptoms, pathophysiology, testing, treatment and prescription of exercise-induced asthma, exercise-induced urticaria, exercise-induced anaphylaxis and FDEIAn through many experiments and references.

**Results:** Exercise-induced asthma is a typical asthmatic attack which follows a strenuous exercise lasting five to 10 minutes in circumstances of dry and cold air situation. Avoid of exercise in that conditions and drug treatment (beta-2 adrenergic agonists) must preferentially be preventive. Physical urticarias are a unique subgroup of CU in which patients develop urticaria secondary to environmental stimuli. Common triggers include cold and heat temperature, water, sunlight and even physical exercise. it is responsible for approximately 20-30% of all cases of chronic urticaria. FDEIAn is induced by different types and various intensities of physical exercise, and this is distinct from food allergy. It is useful to test both *in vivo* and *in vitro* an extensive panel of foods. Avoidance of allergenic foods for at least four hours before exercise has prevented further episodes in all our patients with specific FDEIAn.

**Conclusion:** It is concluded that anaphylaxis remains a continuous challenge for the diagnosis and treatment. The adequate management of anaphylaxis requires rapid diagnosis, implementation of primary and secondary prevention measures, and immediate administration of subcutaneous epinephrine. Furthermore, patient education is necessary to heighten awareness of the sign and symptoms of two kinds of EIA and FEDIAN.

## BIOGRAPHY

Yi Sub Kwak Educational information includes: BS, 1992, MS, 1994, PhD, 2000, Yonsei University, Korea; Research Fellow, Yonsei University College of Medicine, 2000-2002. He was appointed as: Professor, 2003 he also held a position as Head of Institute of Sport Science, 2007 he held a position of Chair, Graduate School and Department of Physical Education, 2009-, Dong-Eui University; Managing Editor, Journal of Life Science, Busan, 2007-. Publications: Numerous articles in professional journals (in the fields of exercise science, exercise immunology, exercise nutrition, health and science and so on). His honours includes: Best professor in Dong-Eui University, 2005-2016; Excellence award, Beijing International Convention of Sports Science, 2006, he also received excellence Award, Yauban International Convention of Sports Science, 2007. He is a visiting Fellow of Harris Manchester College, University of Oxford, 2008.

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