

Peanut Allergy harnessing by Quercetin; Wistar model

Lotfollah Behroo, Hasan Jafari

Ardebil University of Medical Sciences, Nutrition group, Ardebil, Iran.

As a matter of fact, the food allergies' soaring rates are going to go sky-rocket. At this juncture, peanut allergy is, in particular, the major leading cause of deadly anaphylactic reactions to foods and seems actually intractable. Numerally ever-growing pharmaceutical cares are merely palliative, furthermore, their potentially detrimental side effects have been already confirmed. Avoidance, emphasized upon as a mainstay of treatment, is practically no easy task to follow, especially if the food is ubiquitous. Hence, many sufferers search for plant-origin alternative medicine, said to be safe and at the same time, more effective. A versatile, naturally-occurring nutritional compound, quercetin, is of paramount interest to investigators. In the present study, the effects of quercetin on peanut-induced anaphylactic reactions were investigated in an animal model. Male Wistar rats (4-6 w-old) were sensitized with crude peanut extract in the presence of Cholera toxin and Alum. Sensitized animals were then allotted into 3 groups; Positive control, Quercetin-treatment and Sham, (n=7, each). Naive rats (n=7) served as negative controls.

1-week post-sensitization, the rats in treatment group were treated with quercetin at a dose of 50 mg/kg.BW. Subsequently, rats were challenged, and anaphylactic reaction parameters including variations in plasma histamine levels, vascular permeability, systemic anaphylaxis scores, and total serum Immunoglobulin E levels were measured.

After daily-gavaging for 4-w, quercetin absolutely appeased peanut-induced anaphylactic reactions following challenges, so that the mean of plasma histamine levels in the quercetin-treated rats, were lower significantly ($p<0.01$) as compared with positive controls. Findings suggest that, the flavonoid quercetin is efficient enough to preclude peanut allergy's sequela and, can be proposed as an alternative medicine to harness IgE-mediated food allergies.