Bet v 1 allergen is the driver of food allergy in both birch and grass pollen allergic patients

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Abstract

Background: There is in Europe variations in geographical exposures, sensitizations and related clinical allergic manifestations to pollens. This study analyzed the molecular profile of allergen sensitization of a cohort of birch and/or grass pollen allergic patients with or without pollen-related food allergy. Methods: Patients with birch and/or grass allergic rhino-conjunctivitis and/or asthma were included and submitted to standardized questionnaire, skin prick tests (aeroallergens and fresh foods) and serum IgE assays. Results: Based on clinical history, 74 patients were included with birch (n=10), grass (n=31) or mixed (n=34) pollen allergy. Mono-sensitization to pollen was seen in 10 % of patients. In the birch allergic group, Bet v 1 was the major allergen (100 %); 50 % were co-sensitized to grass pollen and 80 % had a plant food allergy. In the grass allergic group, 50 % were co-sensitized to grass were rPhl p 1, nPhl p 4, rPhl p 2, rPhl p 5 b, rPhl p 6 while 32 % had a plant food allergy. In the mixed pollen allergic population, rBet v 1, rPhl p 1, nPhl p 4, rPhl p 5 b and rPhl p 2 were major allergens, and food allergy was present in 76 %. In the 3 groups, patients with food allergy (mainly oral allergy syndrome) had a stronger and higher prevalence of IgE-sensitization to birch pollen and Bet v 1 allergen. Conclusions: IgE sensitization to birch pollen is frequent in grass allergic patients: Bet v 1 represents a marker of cross-plant food allergy.

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