

Letter to the editor

Are there regional differences in diagnostic tests accuracy for oral allergy syndrome?

In a previous issue of *Allergy* there were two interesting articles on diagnostic accuracy of different test to diagnose oral allergy syndrome (OAS) in birch allergic patients and on geographical variation of sensitization to epitopes of birch pollen (1–3). Reading both articles we recognized, that diagnostic accuracy of tests to detect patients with OAS may also vary between different geographical regions.

We tested the ability of apple specific immunoglobulin E (IgE), IgE against recombinant birch allergens (Pharmacia Diagnostics, Uppsala, Sweden), skin prick tests with standardized (Allergopharma, Joachim Ganzer KG, Reinbek, Germany) and raw apple to identify the fruit allergic patients in the group of 83 subsequent patients with birch pollen induced allergic rhinitis (4). Diagnosis of birch pollen allergy was confirmed by skin prick tests and OAS with positive case history.

In group 1 (Table 1) two patients had low concentration of IgE against Bet v2 (profilin) in spite of negative birch IgE. Both had strongly positive skin tests with mugwort pollens.

Interestingly, four (8.2%) patients with OAS had sIgE against apple but negative sIgE against Bet v1. Three of those were Bet v2 positive.

Table 1. Prevalence of positive diagnostic tests in patients with allergic rhinitis and positive skin prick test with birch pollen

	Group 1 (no OAS)	Group 2 (no OAS)*	Group 3 (OAS)*	Diagnostic outcome of tests for OAS		
				Sensitivity	Specificity	Efficiency
Number of patients	9	25	49	–	–	–
Birch sIgE	0	100%	100%	–	–	–
BetV1 sIgE	0	76%	85%	0.87	0.47	0.70
BetV2 sIgE	18%	20%	28%	0.23	0.79	0.46
apple sIgE	0	58%	78%	0.81	0.61	0.73
SPT apple extract	0%	45%	23%†	0.25	0.56	0.38
SPT fresh apple	33%	64%	62%†	0.66	0.56	0.61

SPT, skin prick test; OAS, oral allergy syndrome; sIgE, specific antibody.

* All differences between groups 2 and 3 are non-significant.

† SPT with raw apple were significantly more often positive than SPT with standardized apple extract.

We found SPT with raw apple and sIgE fairly sensitive but very non-specific for identification of OAS in birch allergic population (Table 1). Skin prick tests with standardized apple extract were much less sensitive. sIgE against apple correlated better with the presence of IgE against Bet v1 than with clinical apple allergy.

Negative IgE against Bet v1 and Bet v2 in spite of measurable IgE against birch pollen can be the result of sensitization with only minor birch epitopes or lower sensitivity of recombinant allergen assays compared with natural pollen assay. As

some of the patients with negative Bet v1 and Bet v2 had positive IgE to apple, the second possibility seems more likely.

Neither test discriminates between clinically apple allergic and non-allergic subjects. In diagnostics of birch pollen allergy and fruit cross-allergy clinical history and birch pollen skin prick tests are still most useful tests.

*Kosnik Mitja, Ulcar-Kostic Snezana,
Silar Mira
University Clinic of Respiratory and
Allergic Diseases, 4204 Golnik, Slovenia*

References

1. OSTERBALLE M, SCHELLER R, SKOV PS, ANDERSEN KE, Bindslev-Jensen C. Diagnostic value of scratch-chamber test, skin prick test, histamine release and specific IgE in birch-allergic patients with oral allergy syndrome to apple. *Allergy* 2003;**58**:950–953.
2. ROSSI RE, MONASTEROLO G, MONASTEROLO S. Detection of specific IgE antibodies in the sera of patients allergic to birch pollen using recombinant allergens Bet v 1, Bet v 2, Bet v 4: evaluation of different IgE reactivity profiles. *Allergy* 2003;**58**: 929–933.
3. MOVERARE R, WESTRITSCHNIG K, SVENSSON M, HAYEK B, BENDE M, PAULI G et al. Different IgE reactivity profiles in birch pollen-sensitive patients from six European populations revealed by recombinant allergens: an imprint of local sensitization. *Int Arch Allergy Immunol* 2002;**128**:325–335.
4. ULČAR-KOŠTIČ S, KOŠNIK M, SILAR M. Diagnostic of crossreactivity between birch pollen and apple with recombinant allergens. *Allergy* 2001;**56**(Suppl. 68): 212. Abstract of the 20th Congress of the European Academy of Allergology and Clinical Immunology; 9–13 May 2001, Berlin.