The Oral Allergy Syndrome

ORAL ALLERJİ SENDROMU

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Summary

Here we present a case of “oral allergy syndrome” characterized by local and systemic symptoms following green lentil contact. Dermatologists should keep in mind that allergic rhinitis and/or bronchial asthma patients may present with orofacial symptoms resulting from cross-reactivity between inhalant and food allergens.

Key Words: Oral allergy syndrome, Allergen cross-reactivity, Contact urticaria


Case Report

A 21 year-old man presented with a 16-year history of seasonal hay fever, shortness of breath, and food allergy. Detailed history revealed that he developed itching of lips, mouth, palate and throat; and then swelling of lips, palate, and hoarseness soon after oral contact with some kind of foods including beans, lentils, green peas, and peanut. General physical examination was normal except hyperemia and congestion on nasal mucous membranes. Whole blood count, sedimentation rate, nasal smear, and total eosinophil count were within normal limits. Total IgE was found to be high (1008.40 IU/ml; normal value: <120 IU/ml). Chest x-ray revealed no abnormal findings. “Skin prick tests” with inhalant allergens were found to be unremarkable (+/-). However, 3(+) and 2(+) skin reactivity were observed against “grass pollen mix” and “tree pollen mix” extracts respectively in intradermal tests. Following results were obtained in “food skin prick test”: peanut: 9x4 mm, carrot: 2x3 mm, orange: 2x3mm, negative control: 1x2 mm. The patient had no complaints regarding the intake of carrot and orange. Bean, lentil, and green pea extracts were absent in our skin test panel.

Özet

Burada, yaşıl mercimek ile teması izleyerek ortaya çıkan, lokal ve sistemik semptomlarla kendini gösteren bir “oral alerji sendromu” ölgüsü sunuyoruz. Dermatologlar alerjik rinit ve/veya bronşial astmatı olgularını, solunum yolu ve besin alerjenleri arasındaki çapraz reaktiviteden kaynaklanan, orofasial sıçrama semptomları gelişirebileceklerini unutmamalıdır.

Anahtar Kelimeler: Oral alerji sendromu, Alerjen çapraz reaktivitesi, Kontakt ürtiker

T Klin Dermatoloji 2002, 12:102-103
Table 1. Allergen cross-reactivity

<table>
<thead>
<tr>
<th>Allergen Type</th>
<th>Common Allergens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birch pollens</td>
<td>Hazelnut, apple, peach, cherry, walnut, pear, almond, plum, kiwi, potato peel,</td>
</tr>
<tr>
<td></td>
<td>brazil nut, cashew nut, tomato, carrot</td>
</tr>
<tr>
<td>Grass pollens</td>
<td>Beans, lentils, green peas</td>
</tr>
<tr>
<td>Mugwort pollens</td>
<td>Celery, parsley, chives, banana, melon, parsnip, vermouth</td>
</tr>
<tr>
<td>Ragweed pollens</td>
<td>Watermelon, honey dew melon, cantaloupe, banana, courgette, cucumber</td>
</tr>
</tbody>
</table>

Since an official document showing the exact nature of patient’s allergic status is required, open food challenge test was planned under careful observation in hospital setting where facilities are available to treat severe anaphylactic reactions.

After obtaining informed consent, boiled green lentils were applied to patient’s lips for 10 minutes, and then he kept them in mouth for an additional 10 minutes before spitting. Five to ten minutes later, the patient developed itching and swelling of the lips (urticarial reaction), lingual and oral itching, facial erythema, conjunctival itching and hyperemia, nasal congestion; and finally coughing and wheezing. His symptoms completely resolved in fifteen minutes upon proper and prompt therapeutic intervention including O₂, epinephrine (0.3 ml, 1:1000 subcutaneously), antihistamine (pheniramine maleate, 50 mg, intramuscularly), and β₂ agonist inhalation (formoterol fumarate dihydrate, 12μg).

Discussion

Allergy to fruits of the family of rosacea (apple, peach, pear, etc.) in patients suffering from birch pollinosis is the best known example of pollen-related OAS (3). However, in contrast to vegetable allergens, OAS caused by pollen-related allergy to fruits is hardly ever accompanied by gastrointestinal or systemic reactions (2,4). The Table-1 below shows the common sensitivities to fruit and vegetables in pollen-allergic subjects due to cross-reactivity (5).

Conclusion

- This is a typical case of OAS, a distinct clinical entity, which is classified in the spectrum of “contact urticaria syndrome”.
- Both in-vivo and in-vitro diagnostic procedures have limited value in OAS. Positive reactions are not always compatible with clinical symptoms. The most reliable diagnostic procedure is “double-blind placebo controlled food challenge” (2). However, challenge test is not only difficult and time-consuming, but also it requires sophisticated technical facilities. Open food challenge test is an alternative approach.
- Dermatologists should be aware of the cross-reactivity (cross-reactive epitopes) between inhalant and food allergens (for example, between pollens and fruits/vegetables/nuts) in patients with respiratory allergic disease (allergic rhinoconjunctivitis and/or allergic bronchial asthma) presenting with cutaneous (orofacial) symptoms.

REFERENCES

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Geliş Tarihi: 11.06.2001

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