THE JOURNAL OF Allergy AND Clinical Immunology

November 1994 • Volume 94 • Number 5

Oral allergy syndrome in a subject with a highly relevant monosensitization to egg

Gennaro Liccardi, MD [MEDLINE LOOKUP]
Gennaro D'Amato, MD [MEDLINE LOOKUP]

- *Naples, Italy*

Sections

- Case Report
- Methods
- Results
- Discussion
- References
- Publishing and Reprint Information

OAS Oral allergy syndrome

In the last few years several studies have highlighted the importance of the clinical aspects of oral allergy syndrome (OAS). Patients who have this allergy show immediate-type symptoms, which usually begin within a few minutes after contact with the offending food.[1] These symptoms are typically localized to the mouth and throat (itching and swelling) and may be accompanied by systemic manifestations (e.g., rhinoconjunctivitis, asthma, urticaria-angioedema, and anaphylactic shock).[2]

OAS is commonly induced by ingestion of fresh fruits and vegetables (e.g., apple, hazelnut, peach, tomato, and carrot) and rarely by other foods.[3]

Pollinosis seems to facilitate the appearance of OAS; several studies have demonstrated a significant association between grasses, birch, ragweed, or mugwort pollinosis and the development of fruit- or vegetable-related OAS.[3] In this report we describe an unusual case of OAS without significant systemic manifestations in a subject without pollinosis but with a highly relevant monosensitization to egg proteins.

Case Report

We have observed an 11-year-old girl who had a family history of atopic diseases (one brother with mite-sensitive asthma) and atopic eczema in the first month of life. At the age of 3 months, the patient

experienced the first clinical manifestations of OAS (oral itching and swelling) after the ingestion of a biscuit containing egg.

At the age of 5 months after the first ingestion of a fresh egg, the subject was hospitalized in an emergency care unit for treatment of severe mouth swelling and hypotension. From that time, the patient had the same local manifestations after ingestion of small quantities of fresh or cooked eggs, as well as after intake of small quantities of foods containing egg (e.g., biscuits, cakes).

Methods

The examination of the patient included cutaneous, serologic, and provocative diagnostic tests with commercially available extracts and reagents. Informed consent was obtained from the patient and her parents.

Skin prick tests were performed according to the method of Aas and Belin [4] with the use of a standardized prick instrument and standardized allergenic extracts for common inhalant allergens and the most important foods (Lofarma Laboratories, Milan, Italy); wheal areas were also calculated.

Serum samples were obtained for total and specific IgE determinations with the Pharmacia CAP system (Kabi Pharmacia, Uppsala, Sweden).

Food challenges were performed on separate days by using a double-blind placebo-controlled method.[5] Capsules containing 0.05, 0.2, 1, 5, 20 mg liophylized egg proteins, respectively, or inert lactose vehicle (Lofarma Laboratories) were applied directly to the oral mucosa to obtain direct contact with the target organ and if possible, consequent allergic manifestations.

Results

Table I shows the results of cutaneous and serologic diagnostic tests. There was no cutaneous or serologic sensitization to common inhalant allergens or other foods examined.

TABLE I. Results of cutaneous and serologic diagnostic tests

	Skin tests		Serologic IgE assay		
	Classes	Wheal area (mm^2)	Classes	KU/L	
Egg white	+ + + +	78	6	> 100	Specific IgE
Egg yolk	+ + + +	74	5	75.9	
Histamine (positive control)	+ + +	52		1126	Total IgE

After the introduction of the content of the capsule (0.05 mg of egg proteins) into the mouth, the patient had local manifestations (intense itching and moderate swelling), which required the administration of terfenadine (1 tablet of 60 mg by mouth). The challenge was repeated after 7 days with a placebo capsule and did not induce symptoms.

Discussion

Although all foods may induce OAS, fruits and vegetables are usually considered the most common causative agents, and this is particularly the case in subjects with pollinosis.

We have described a rare case of OAS without relevant systemic manifestations in a patient with sensitization only to egg proteins; in this subject the severity of local symptoms did not permit ingestion of foods (particularly cakes) containing eggs, even in small quantities.

Even if we cannot exclude the possibility of a systemic reaction at the age of 5 months, this is unlikely because of the lack of a concomitant cutaneous or respiratory symptoms either in the first episode or others. Moreover, clinical documentation concerning this emergency visit is not available, and therefore the anamnestic term *hypotension* used by the parents could be inappropriate.

Therefore we conclude that allergy to egg proteins may induce OAS, as well as cutaneous or systemic disorders.

We thank Mrs. Sandra Thompson for revising the English text.

References

1. Amlot PL, Kemeny DM, Zachary C, Parkes P, Lessof MH. Oral allergy syndrome (OAS) symptoms of IgE mediated hypersensitivity to foods. Clin Allergy 1987;17:33-42.

2. Ortolani C, Ispano M, Pastorello EA, Bigi A, Ansaloni R. The oral allergy syndrome. Ann Allergy 1989;61:47-52.

3. Ortolani C, Ispano M, Pastorello EA, Ansaloni R, Magri GC. Comparison of results of skin prick tests (with fresh foods and commercial food extracts) and RAST in 100 patients with oral allergy syndrome. JALLERGY CLIN IMMUNOL 1989;83:683-90.

4. Aas K, Belin L. Standardization of diagnostic work in allergy. Acta Allergol 1972;27:439-68.

5. American College of Allergy and Immunology. Position Statement. Guidelines for study of adverse reactions to foods. Ann Allergy 1991;67:299-300.

Publishing and Reprint Information

- *From the Department of Chest Diseases, Division of Pneumonology and Allergology, "Hospital "A. Cardarelli," Naples, Italy.*
- *Reprint requests: Gennaro Liccardi, MD, Department of Chest Diseases, Division of Pneumology and Allergology, Hospital "A. Cardarelli," Via A. Cardarelli n°9 80131 Naples, Italy.*
- JALLERGY CLIN IMMUNOL *1994;94:931-2**Copyright © 1994 by Mosby–Year Book, Inc.*
- *0091-6749/94 $3.00 + 0* ***1/54/58632***