

## Anaphylaxis induced by ingestion of a pollen compound

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### SUMMARY

We report on the case of a 32-year-old atopic patient who showed a severe anaphylactic reaction due to the ingestion of a pollen compound prepared in an herbalist's. A few minutes after ingestion, generalized pruritus, diffuse erythema, facial edema, cough, hoarseness and dysphonia appeared, and the emergency administration of subcutaneous epinephrine and intravenous methylprednisolone was necessary. Skin tests with a battery of inhalants and food allergens were performed. The patient only showed sensitization to *Artemisia vulgaris*, *Taraxacum officinalis* and *Salix alba*. Specific IgE levels were evaluated by FEIA-CAP giving a seric level of CAP class 3 to *Artemisia vulgaris* and class 2 to *Taraxacum officinalis* and *Salix alba*. Samples of the pollen compound were shown in the microscopical analysis to be 93% pollens and 6% fungi. In the qualitative study *Taraxacum officinalis* (15%), *Artemisia vulgaris* (5%) and *Salix alba* (15%) were the main elements identified. In summary, this case study describes a food-induced systemic reaction due to a pollen compound in an atopic patient with a history of allergic rhinitis. Pollinic patients must be informed on the risks that the consumption of these compounds might cause.

**Key words:** Anaphylaxis - Pollens - Herbalist

### INTRODUCTION

Food allergy and anaphylactic reactions are common in atopic patients (1-3), and sometimes depend on exercise (4-6). Nowadays the consumption of pollen compounds prepared in the herbalist's is increasing, even in the atopic population.

We report on the case of a 32-year-old man, an atopic patient, who showed a severe anaphylactic reaction due to the ingestion of a pollen compound prepared in an herbalist's.

Generalized pruritus, diffuse erythema, facial edema, cough, hoarseness and dysphonia appeared 15 min after the ingestion at breakfast time. The urgent administration of subcutaneous epinephrine and intravenous methylprednisolone was necessary.

The patient had a suggestive history of seasonal allergic rhinoconjunctivitis by sensitization to pollens.

### MATERIALS AND METHODS

#### Skin tests

A standard prick test was performed with the common inhalant allergens (*Lolium perenne*, *Cynodon dactylon*, *Phragmites communis*, *Dactylis glomerata*, *Secale cereale*, *Olea europea*, *Parietaria judaica*, *Artemisia vulgaris*, *Salsola kali*, *Plantago lanceolata*, *Dermatophagoides pteronyssinus*, *Dermatophagoides farinae*, *Felis domesticus*, *Mucor racemosus*, *Aspergillus fumigatus*, *Alternaria tenuis*, *Penicillium notatum*, *Taraxacum officinalis*, *Salix alba*, *Fraxinus angustifolia*, *Quercus pircana* and *Ulmus glabra*) and foods (cow's milk, fish, gluten, peanut, orange, banana, sunflower and strawberry).

#### Total IgE

Total IgE was measured by FEIA-CAP (Pharmacia, Uppsala, Sweden).

#### Specific IgE

Specific IgE to inhalants (*Lolium perenne*, *Dactylis glomerata*, *Olea europea*, *Artemisia vulgaris*, *Parietaria judaica*, *Taraxacum officinalis*, *Salix alba*, *Dermatophagoides pteronyssinus*, *Dermatophagoides farinae*, *Felis domesticus*, *Canis familiaris*, *Penicillium notatum*, *Clado-*

*sporium herbarum*, *Aspergillus fumigatus* and *Alternaria alternata*) and foods (cow's milk, egg, fish, peanut and sunflower) were measured by FEIA-CAP (Pharmacia, Uppsala, Sweden).

Microscopic analysis was carried out with an Olympus CHA microscope.

## RESULTS

### Skin tests

The results of the skin tests were the following: *Artemisia vulgaris*: 13 × 7 mm; *Taraxacum officinalis*: 10 × 6 mm; *Salix alba*: 4 × 4 mm; histamine: 6 × 6 mm; saline and the rest of the allergens: 0 × 0 mm.

### Total IgE

Total IgE was found to be 127 KU/l.

### Specific IgE

The results of specific IgE testing yielded the following: *Artemisia vulgaris*: 5.15 KU/l (class 3); *Taraxacum officinalis*: 1.18 KU/l (class 2); *Salix alba*: 0.82 KU/l (class 2) and the rest of the inhalants and foods: <0.35 KU/l (class 0).

### Microscopic analysis of pollen compound

Pollens were found to be 93% of the sample and they included: *Taraxacum officinalis*: 15%; *Cruciferae*: 15%; *Artemisia vulgaris*: 5%; *Labiatae*: 10%; *Salix alba*: 15%; *Rosaceae*: 10%; *Olea europea*: 5%; *Liliaceae*: 10%; *Umus*, *Plantago*, *Populus*: 10% and unidentified: 5%.

Fungi was 6% of the sample.

## DISCUSSION

Food allergy is common in atopic patients, and sometimes severe adverse reactions occur with exercise. Our patient had a previous history of rhinoconjunctivitis, but he had never been studied before the described reaction.

He bought the pollen compound in an herbalist's and he did not know the real composition of this product, which was only identified by a label saying "pollen." The *in vivo* and *in vitro* tests showed that he was a pollinic patient sensitized to *Artemisia vulgaris*, *Taraxacum officinalis* and *Salix alba*.

In the microscopic analysis we observed that pollens were the main component of the product, with *Artemisia vulgaris*, *Taraxacum officinalis* and *Salix alba* being about 50% of the product.

In summary, we report one case of a food-induced systemic reaction, due to a pollen compound, which hap-

pened to an atopic patient with a history of allergic rhinoconjunctivitis. Patients must be informed of the risks that the consumption of these compounds might cause.

## RESUMEN

Describimos el caso clínico de un varón atópico de 32 años de edad, que sufrió una reacción anafiláctica grave producida por la ingesta de un compuesto de pólenes que había sido preparado en un herbolario. A los 15 minutos de la ingestión presentó eritema pruriginoso generalizado, edema palpebral, labial y lingual, dificultad inspiratoria y rinoresaca acuosa profusa. Preciso tratamiento urgente con antihistamínicos, corticoides y adrenalina en un centro extrahospitalario, y fue trasladado a nuestro hospital, donde mejoraron rápidamente los síntomas. No refería antecedentes familiares de interés alérgico. Se realizaron pruebas cutáneas con una batería de inhalantes y alimentos. Se observaron únicamente reacciones positivas a *Taraxacum officinalis*, *Artemisia vulgaris* y *Salix alba*. Se determinaron IgE total mediante técnica FEIA-CAP (Pharmacia, Uppsala, Suecia) con un resultado de 127 KU/l e IgE específica mediante FEIACAP (Pharmacia, Uppsala, Suecia) con reacciones positivas de clase 3 a *A. vulgaris*, de clase 2 a *T. officinalis* y de clase 2 a *S. alba*. Se llevó a cabo un estudio microscópico del compuesto polínico ingerido por el paciente, que demostró una composición del 93% de pólenes y un 6% de hongos. En el estudio cualitativo destacaron *T. officinalis* (15%), *A. vulgaris* (5%) y *S. alba* (15%). En resumen, se trata de una reacción anafiláctica grave debida a la ingesta de un compuesto polínico ocurrida en un paciente atópico con historia compatible con rinitis alérgica estacional. Los pacientes polínicos deberían ser informados de los riesgos graves que conlleva el consumo de este tipo de compuestos o preparados.

**Palabras clave:** Anafilaxia - Pólenes - Herbolario

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