

LETTER TO THE EDITOR

SKIN REACTIONS TRIGGERED BY THE USE OF COSMETIC PRODUCTS IN NON-SPECIFIC LIPID TRANSFER PROTEIN-SENSITIVE PATIENTS

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Nonspecific lipid transfer proteins (nsLTPs) are members of the prolamine superfamily and they are found in pollen and food, as well as in latex. Due to the strong stability both against pepsin digestion and thermal denaturation, sensitisation towards these proteins is often associated with severe systemic reactions (angioedema, urticaria, asthma, anaphylaxis, etc.) following the ingestion of both raw or fresh food and cooked or preserved food. Many studies have shown reactivity towards nsLTPs both via inhalation and orally and in this study we present two cases of nsLTPs-sensitive patients who manifested the immediate onset of skin reactions following the use of cosmetic products containing these proteins. Thus, in order to prevent immediate reactions linked to their use, it is necessary to recommend nsLTPs-sensitive patients to avoid the topical use of products containing these proteins (and obviously the ingestion of foods containing these proteins).

Nonspecific lipid transfer proteins (nsLTPs) are members of the Prolamine superfamily with low molecular weight (9-10 kDa) and play an important defensive role in plants, protecting them from fungi and bacteria (1). They are found in pollen and in food, as well as in latex. Due to the strong stability both against pepsin digestion and thermal denaturation, sensitisation towards these proteins is often associated with severe systemic reactions (angioedema, urticaria, asthma, anaphylaxis, etc.) following the ingestion of both raw or fresh food and cooked or preserved food. A high degree of cross-reactivity has also been shown among various foods containing nsLTPs, even when they belong to botanically non-correlated species (2). Many studies have shown reactivity towards nsLTPs both via inhalation and orally (3) and in our paper we present two cases of nsLTPs-sensitive patients who manifested the immediate onset of skin reactions

following the use of cosmetic products containing these proteins.

Case report no. 1.

A 32-year-old woman, with a previous history of perennial rhino-conjunctivitis with seasonal aggravation (Spring), had complained of acute episodes of urticaria for about a year following the ingestion of apples, peaches, rice, strawberries, almonds, peanuts and hazelnuts. These episodes were associated with symptoms of asthenia, drowsiness and abdominal swelling which regressed when anti-histamines and cortisones were administered. The following tests were performed: prick tests for the most common inhalant allergens, which were positive for grass++ hazelnut++ and mites+++; prick tests for main foods, positive for wheat+ rice++ corn+ apple+ tomato+ peach ++ peanut++ walnut+ hazelnut++; IgE specific dosage [Cap system] was positive for D pt. 12.70, D

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far. 8.76 Poa p. 3.54 Pru p 3 1.90, and with the ISAC system was positive for nsLTPs (Pru p 3 1.14), grass pollen (Phl p 1 4.20, Phl p 2 2.95, Phl p 5 0.64, Phl p 6 1.54) and dust mites (Der f 1 3.22, Der f 2 2.96, Der p 1 4.68, Der p 2 4.07). Due to these results, we provided the patient with a list of the foods containing the above-mentioned proteins and suggested an nsLTPs-free diet, environmental prophylaxis for mites and pharmacological therapy for the respiratory manifestations. After following the nsLTPs-free diet for 2 months, the patient reported a marked improvement of the skin and gastrointestinal symptoms. However, she also told us that a few days previously, after a session of massages in a beauty centre a body-cream containing rice was applied and within 30 minutes she developed the following symptoms: rhinitis with a volley of sneezes, itching and widespread skin erythema, scratchy throat and a slight sense of suffocation. The patient was treated with an antihistamine per os with total regression of the symptoms in 30 minutes. After two weeks from clinical improvement the patient was evaluated with Patch test for both European series and the culprit cream, showing a strong positive reaction (+++) only for the culprit cream. Patch test with single ingredients of the cosmetic cream was not performed since they were not available.

Case report no. 2.

A 27-year-old woman, suffering from mild rhinitis for many years – independently of the season, without cough or dyspnoea – and from widespread itching erythematous-pomphoid dermatitis immediately after ingestion of peaches and plums. In the previous 3-4 years these symptoms had also been also accompanied by labial oedema, a sense of suffocation and vomiting within a few minutes from the ingestion of peaches, plums, apricots, cherries, strawberries and apples, both raw and cooked, especially when these foods were ingested with their peel. These symptoms regressed with systemic corticosteroids. In addition, she reported an episode of itching erythematous dermatitis in the same spot where a moisturizing cream, which she had never used previously, had been applied.

The episode developed within 15-20 minutes and resolved in about 1 hour following systemic steroid and antihistamine administration. Noteworthy, one of the major components of the suspected cream she used was peach (*Prunus Persica*).

Specific IgEs (Isac) were carried out showing positivity for nsLTPs (Pru p 3: 1.55) and mites (Der f 2: 1.41, Der p 2: 0.60). Patch Tests with the European Standard was negative; Patch test with the culprit cream was strongly positive (+++). Prick Tests were not performed because our patient was taking antihistamine for her rhinitis.

Patch test with single ingredients of cosmetic cream was not performed since they were not available.

DISCUSSION

The physical-chemical characteristics of some foods (peaches, rice, apricots, almonds, etc.) are exploited in some cosmetic products for their hydrating and moisturising properties. Therefore, in order to prevent immediate reactions linked to their use, it is necessary to recommend nsLTPs-sensitive patients to avoid the topical use of products containing these proteins (and obviously the ingestion of foods containing these proteins).

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