"The Pollen-Food Olive-Olive Syndrome"

Le "Pollen-Food Syndrome" à l'olive

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RÉSUMÉ

Prérequis : Le « pollen-food syndrome » est rare et de diagnostic difficile. Nous rapportons le quatrième cas décrit dans la littérature de « pollen food syndrome » à l'olive.

Observation : Il s'agit d'une patiente âgé de 48 ans présentant une urticaire et un prurit du voile du palais suite à l'ingestion d'olive, 5 ans après le diagnostic d'une pollinose à l'olive. La patiente ne présente pas d'antécédents d'allergie à d'autres aliments. Les tests cutanés aux pollens d'olivier ainsi que le dosage des Ig E spécifiques aux pollens d'olivier étaient positifs. Le test de provocation orale était positif à l'olive et négatif à l'huile d'olive. Le diagnostic d'un syndrome « pollen-food syndrome » à l'olive est retenue.

Conclusion : Bien que rare ce syndrome doit être évoqué particulièrement dans notre pays.

Mots-clés
Pollen food syndrome, allergie, asthme, olive, pollen.

SUMMARY

Background: The pollen-foods syndrome is rare and of difficult diagnosis. The aim is to report a rare case, it's the four case reported in the literature.

Case report: A 48-year-old woman presenting with palatal itching and generalized urticaria following ingestion of olive fruit, 5 years after being diagnosed with olive pollinosis. She did not have a history of other food allergy or urticaria. The prick-test was positive in olive pollen.The olive pollen specific IgE was positive. The oral provocation test was positive for olives and negative for olive oil. The diagnosis of "pollen-food olive-olive syndrome" was accepted. Interestingly, in this rare case the patient developed olive fruit allergy in the presence of olive pollinosis, but did not experience allergic symptoms to fruits other than olive.

Conclusion: In spite its rarity this syndrome should be evoke particularly in our country.

Key-words
Pollen food syndrome, allergy, asthma, olive, pollen.

Olive pollen is one of the most common causes of respiratory allergy in the Mediterranean area. The widespread cultivation of olive trees in these countries, including Tunisia, accounts for the fact that olive pollinosis is one of the leading causes of allergic rhinoconjunctivitis. Olive pollen may also induce exacerbation of asthma in the pollinating season [1-2]. However, olive fruits are rarely involved in food allergy, despite their common consumption in this region. When food allergy is associated with sensitization to aeroallergens including pollens, it defines the "pollen-food syndrome". This syndrome is exceptionally related to olives. It's the four case reported in the literature.

CASE REPORT

A 48-year-old woman with rhinoconjunctivitis and asthma to olive pollen for five years experienced several times palatal and inner lips itching with generalized urticaria few minutes after olives ingestion. The prick-test was positive in olive pollen. Specific IgE aeroallergens using MAST CLA test confirmed the olive pollen sensitization. Five years after the diagnosis of olive pollinosis, the patient noted, after olive ingestion, palatal and inner lips itching with generalized urticaria. She experienced these symptoms several times following ingestion of olive fruit. The patient did not have a history of food allergy and she could tolerate other foods including nuts, pear, peach, melon, or kiwi. Ingestion of olive oil either fresh or cooked did not trigger any allergic reaction. Specific IgE olive fruit allergen could not be studied in our laboratory, and the other specific food allergen with Mast CLA test was negative for all tested allergens particularly pear, kiwi, almond, and nuts. To confirm the olive oral allergy syndrome (OAS), we started with corn oil (5cc) and after one our olive oil ingestion (5cc), test was carried out without any resulting symptoms. Test was realized simple-blind. Twenty four hours later, olive fruit ingestion was performed, five minutes later, she developed palatal and inner lips itching. Thus, food allergy to olive fruit was confirmed and the patient was asked to abstain from olives. The patient continued to prepare her meals using olive oil. Pollen-food olive-olive syndrome was confirmed in this patient.

DISCUSSION

Numerous pollen allergens have been purified and characterized from Olea europaea pollens. Olive pollen allergy is a complex condition involving environmental and genetic factors. Quiralte (2) analyzed the influence of the IgE response to olive pollen allergens on the modulation of the different clinical phenotypes of allergic diseases and their relationship with the level of exposure to pollen and genetic factors. They found that patients from high-exposure areas had a complex IgE antibody response to allergens of Olea euroapae which included three or more allergens in 75% of cases. The majority of these allergens were Ole e 1, Ole e 2 (profilin), Ole e 7 (lipid transfert proteins), Ole e 9 (glucanase), and Ole e 10. There is a genetic control of allergen-specific IgE responses in olive allergy that may play a role in the clinical disease (2,3). Moreover, preliminary studies suggest that some environmental factors might have an effect on allergen-specific IgE prevalence and on the allergens profiles of olive-allergens patients.

The clinical spectrum is variable: oral allergy syndrome (OAS), generalized urticaria, angioedema and systemic anaphylaxis (4). Anti-Ole e 2 IgE antibodies were detected in 90% of OAS patients (5). Sensitization to food allergens may occur because of an allergenic sensitization to inhalant allergens, most of which are highly cross-reactive plant-derived proteins. In fact, many olive pollen allergens show sequence homology to proteins from different vegetable and fruit tissues (2). This cross reactivity is due to a similarity in the proteins structures. A study from Switzerland (6) reported that approximately 35% of patients with pollen allergy were also sensitive to fresh fruits and vegetables. Allergy to peach, pear, kiwi, melon, and nut has been reported in patients suffering from olive pollen sensitivity (5). Our patient had no history of anaphylaxis or oral allergy syndrome following ingestion of these fruits. OAS seems to be more common in adults (8%) than in children (5%) (7). Systemic reactions associated with OAS are rare; this might be explained by the fact that the proteins responsible for these reactions are not thermostable and thus undergo rapid degradation during digestion.

Our patient's symptoms were triggered only by olives. The absence of an allergic reaction after ingestion of olive oil suggests that the allergen in question has been denatured probably during the oil production process. This might also suggest that the allergen is probably present in the olive peel. The association of olive pollen and olive fruit allergies is rare, especially in the absence of a history of food allergy like in our patient. Only three cases have been reported in the literature (8-10). In two cases, the patients tolerated olive oil (9,10), like our patient. In the third case, the anaphylaxis occurred upon ingestion of both olive fruit and olive oil (8). Further studies are necessary for a better understanding of the mechanisms involved in the allergy to olive and to olive oil especially in the Mediterranean area.

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