

LETTER TO THE EDITOR

FRIDAY ASTHMA CRISIS IN THE DAUGHTER OF TWO BAKERS

S. CAIMMI¹, A. MARSEGLIA², D. CAIMMI² and G.L. MARSEGLIA²¹*Department of Pediatrics, Azienda Ospedaliera Ospedale Maggiore di Crema, Cremona;*²*Department of Pediatrics, Foundation IRCCS Policlinico San Matteo, University of Pavia, Italy**Received September 6, 2010 – Accepted March 9, 2011*

The prevalence of sesame food allergy continues to increase worldwide. The diagnostic tools to confirm such allergy include skin prick tests, specific IgEs and food challenge. We report the case of a 7-year-old girl who presented recurrent episodes of wheezing and dyspnoea. After performing skin tests and evaluating specific IgEs we hypothesised an allergy to sesame. Our patient actually benefitted from avoiding any contact with sesame and sesame seeds. We confirmed our diagnosis through an inhalation food challenge. Further, by reviewing her personal history, we suspect inhalation was the mechanism in which the girl became sensitised to sesame.

The prevalence of sesame food allergy (SFA) varies geographically and, probably because of its increasing consumption, is more and more reported in literature (1-2). Unlike eggs and milk, SFA belongs to the group of foods, such as fish and peanuts that have a low rate of tolerance development (1, 3). SFA is mainly acquired by contact and ingestion, but there are a few cases reporting sensitisation by inhalation (4-5). Ses i 1, Ses i 2 and Ses i 3 are the three major sesame allergens; nevertheless, other new allergens are being constantly discovered (6-8). The gold standard to confirm food allergy is a classical food challenge. In fact, in the case of sesame allergy, skin prick tests (SPT) and specific IgEs have not been established as good predictors of true allergy (1, 3).

In a study conducted in Israel, sesame allergy was underlined as the third most common cause of IgE-mediated food allergic reactions, being second only to cow's milk as a cause of anaphylaxis (9). This finding also agrees with the incidence of sesame allergy in Europe, and in November 2003, a European Commission law (2003/89 EC) included

sesame in the list of the 11 allergens that, if present, must be mentioned on food labeling (along with celery, crustaceans, egg, fish, gluten, milk, mustard, peanuts, soya, and tree nuts) (10).

We report the case of a 7-year-old girl, the daughter of two bakers. She was evaluated in our outpatient clinic for recurrent episodes of wheezing and dyspnoea. Upon reviewing the patient's history, we learned that she presented these respiratory crises any time she was at her parents' bakery and every Friday night, after her parents came home from work. She was a non-responder to an association therapy of steroid and Long-Acting Beta-Agonist (LABA). Moreover, in spite of the therapy, she still presented the same symptoms, mainly on Friday nights. Blood samples were collected to evaluate specific IgEs: she was sensitised to dust mites (43 IUA/l), sesame (>100 IUA/l), hazelnut (11.3 IUA/l), soybean (20 IUA/l), walnut (10.7 IUA/l), almond (0.99 IUA/l), and peanut (4.76 IUA/l). SPTs for common food allergens showed a strong positivity to sesame (wheal size 8 mm, with Histamine control 4 mm). Nevertheless, the two parents reported that

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Mailing address: Prof. Gian Luigi Marseglia,
Dpt. of Paediatrics, University of Pavia,
Fondazione IRCCS Policlinico San Matteo,
27100 Pavia, Italy
Tel: ++39 0382 502 583
Fax: ++39 0382 527976
e-mail: gl.marseglia@smatteo.pv.it

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they had never introduced sesame into the child's diet, as they do not include such food in their daily diet. Considering the high level of sesame specific serum IgE detected in the patient, an oral challenge for sesame was not performed. ImmunoCAP® system results showed a positivity to Ses i 1, the major epitope of the allergen, and to Ses i 2.

Considering the results of specific IgE and the cross-reactivity of Ses i 1 and of Ses i 2, we advised the family to carefully avoid any contact with sesame. More specifically, we also asked the girl not to spend time at the bakery. In addition, after discovering that they baked sesame bread weekly on Fridays, we advised the parents to change their clothes before going home every Friday. Even though specific IgEs tests were positive for nuts which are also known to possibly cross-react with sesame, we know that the patient currently eats nuts without experiencing any symptoms. Since our preliminary diagnosis, she no longer experiences episodes of bronchospasm or dyspnoea. Nevertheless, in order to confirm our hypothesis, we ran a sesame challenge by inhalation. The girl handled sesame seeds for 15 minutes, experiencing symptoms of bronchospasm, but without any cutaneous symptoms of allergy. We then performed a spirometric examination that showed a drop of 21% of her FEV1 and, 2 hours after the challenge, her PEF was also decreased (-18%).

In conclusion, SFA may be acquired by contact, ingestion or inhalation. Inhalation food challenge is a helpful tool in the diagnosis of allergies to seeds, especially in those cases in which very high levels of specific IgEs contra-indicate an oral challenge. Even though we cannot totally exclude a sensitization by ingestion, taking into consideration the patient's personal history, we believe that inhalation is the way through which our patient became sensitised to sesame.

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