

Letters to the editor

Reactions to airborne fish particles

Crespo et al. (1) report 21 children with allergy to fish in whom inhalation of fish odours or fumes was associated with symptoms. Unfortunately, the study was based entirely on reports of parents, and the reactions were poorly defined (e.g., no time to onset of symptoms, or duration of symptoms, was given). In fact, this phenomenon is well recognized, can occur with various foods (not just fish), and in the past was described as “osmylogenic urticaria” (2). It is unfortunate that in this study there was no attempt to validate or quantify the parents’ reports (both positive and negative) by blind challenges, since parental reporting of adverse reactions to foods is notoriously unreliable (2).

The authors suggest that inhalation of fish antigens could delay the development of tolerance, but they provide no evidence to support this speculative and unwarranted claim. In fact, there are no objective data to indicate that strict avoidance has any effect on the development of tolerance in most children with food allergy. Indeed, it is quite plausible that repeated low-level exposure could enhance or speed up the development of tolerance.

References

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Reply

We completely agree that oral challenge is the most objective approach to the diagnosis of food adverse reactions. Thus, our patients’ fish allergy diagnosis had been confirmed through oral challenges, with the only exception being those cases with severe anaphylactic reactions. Nevertheless, the assessment of

the reactions taking place later following exposure to airborne fish particles, without ingestion, caused specific problems. First, there were ethical implications of the clinical research, as the patients had previously been diagnosed as having IgE-mediated fish allergy through positive oral challenges, and, in the patient’s follow-up, challenges were repeated to evaluate the possibility of reintroducing fish into the diet. Second, there were also technical implications to be dealt with that could have been solved, such as steam, yet the cases of fume or odors would have been much harder. Lastly, our patients had been properly diagnosed as having fish allergy; we are not reporting isolated cases but rather the evaluation of the symptoms of a total of 197 fish-allergic patients, followed up over several years, who had fish-avoidance diets and symptoms caused by exposure to airborne fish particles, reported repeatedly in at least 19 patients. The main episodes were wheezing, urticaria, and/or angioedema either during or immediately after exposure.

Although one can only speculate about the effect of exposure to limited quantities of fish through inhalation on the outcome of fish allergy, it is possible to affirm that: 1) the degree of compliance with the allergen-avoidance (5, 7) diet and the allergen responsible for the reaction (2, 7) have been proven to be factors that influence the likelihood of losing the clinical reactivity, and 2) exposure to airborne food particles may result in at least an unexpected source of contact with the allergens that could elicit severe clinical manifestations in patients having IgE-mediated food allergy and believed to be protected by avoiding the ingestion of the offending food (3).

The role fish allergens may play in causing certain symptoms by inhalation or just exposure has normally been studied from the aspect of occupational hazard (1). Despite this, there is little information on inhalative exposure in patients who experience an allergy outside their professional duties (1). Besides, the possibility of exposure to food allergens or particles through less common ways, such as odors or fumes, slightly touched upon in the 1950s, has been poorly analyzed. So perhaps the time has come to determine whether “osmyls” really exists and, if so, what is its nature, in view of current evidence that some allergens may become airborne as aerosols (6)

and the existence of allergenic pauci-micronic particles, as clearly demonstrated over the last decade for other allergens, such as the ones that are derived from plants (8, 9).

References

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