

Acute anaphylactic reaction after prick-by-prick testing for pine nut in a child[☆]

To the Editor,

Pine nuts are the seeds of *Pinus pinea* which are a fundamental ingredient of a variety of sauces, including "pesto". *Pesto* originated in Genoa, Italy, and the name comes from the Italian word "pestare" (to pound or to bruise) since the traditional way of making this sauce was with mortar and pestle. Typically, *pesto* is prepared with fresh basil, garlic, pine nuts, grated parmesan and sheep milk cheese, extra-virgin olive oil, and coarse salt.

Hypersensitivity to pine nuts is not an infrequent occurrence and there are a dozen anaphylactic reactions after ingestion of these seeds described in literature after the first case report provided by Santos and Unger in 1958.¹⁻⁷ The possible reason is that these seeds are increasingly used in several kind of foods, including in salads, cakes and other pastries, and sauces, and even as an oil substitute.

We report a case of acute anaphylactic reaction suddenly occurred after prick-by-prick testing with pine nut in a two-year-old child. The clinical history reported the occurrence of hypotension, hypotonia, asthenia, and vomiting immediately (few minutes) after having consumed a dish of spaghetti with *pesto* sauce; the symptoms remitted after oral prednisone administered at home (0.1 mg/kg). In addition, he suffered from recurrent wheezing and adverse reaction (one episode) to peanut ingestion. However, he did not suffer from any other allergic disease (e.g. atopic dermatitis). In addition, he had never been submitted to previous skin prick testing with food extracts. These points are clinically relevant as several risk factors for developing anaphylaxis after skin testing, such as low age (below one year), active atopic eczema, and performance of duplicate skin testing, were previously described in children.

He was referred to the Allergy Unit of our institution for evaluation. Clinical examination and blood tests were normal. We identified pine nuts as the ingredient in the *pesto* sauce likely to be the causal allergen of the reaction. The diagnosis of food allergy is based on the demonstration of positive skin testing or on the presence of specific serum IgE, and confirmed by a double-dummy, placebo controlled, oral challenge.⁸ However, when previous occurrence of severe reactions is reported, oral challenge should not be performed and the diagnosis can be based on a clinical history consistent with allergen-specific IgE positivity.

In our patient, as the standardised extract was unavailable at our centre, a prick-by-prick using fresh pine nut was performed to confirm the diagnosis. Five minutes after

prick-by-prick testing, nasal and conjunctival itching was observed with congestion. Itching became rapidly systemic, associated with irritability, asthenia, cough and dyspnoea. The clinical examination demonstrated wheezing, SaO₂ was 96% in room air and the blood pressure 90/65 mmHg (before testing 110/70). Symptoms rapidly remitted after adrenaline aerosol (10 mg) and parenteral antihistaminic (chlorfenamine 5 mg) and steroidal (betamethasone 1.2 mg) treatment. Anyway, the test was positive: wheal diameter was 4 mm × 4 mm.

Further, we obtained the results of the level of serum IgE specific for pine nut 32 kU/L (ImmunoCap System, Phadia, Milan, Italy), thus confirming the IgE-dependent reaction.

Acute anaphylactic reaction to pine nut following skin testing has been so far reported only in one adult patient,⁹ but the present report underlines the need to only perform prick-by-prick testing on patients with history of severe systemic reaction in a well-equipped and trained setting.

Conflict of interest

All authors have no conflict of interest

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