
Letters

EGG SENSITIZATION CAUSED BY IMMEDIATE HYPERSENSITIVITY REACTION TO DRUG-CONTAINING LYSOZYME

Lysozyme is an enzyme obtained from egg white. Its lytic activity on the cell wall of gram-positive microorganisms has led to its use in pharmaceutical products and food applications (cheese and wine industry).¹ However, hypersensitivity reactions to lysozyme as a result of drug intake have rarely been reported.^{2–6}

We describe a 20-month-old child with atopic dermatitis from the age of 2 months. For this reason, weaning was delayed and egg was not introduced into his diet. He presented with a severe adverse drug reaction to Narlisim (Baldacci Laboratories SpA, Pisa, Italy), a nasal decongestant that contains phenylpropylamine, thonzylamine, and lysozyme. He experienced rhinitis, bronchial asthma, and dysphonia within a few minutes after the nasal instillation of Narlisim.

He was referred to the Pediatric Unit of Fidenza for allergologic investigation supported by skin prick test (SPT) and ImmunoCAP assay (Phadia, Uppsala, Sweden). An SPT was performed with egg white, egg yolk (Lofarma, Milan, Italy), and Narlisim; a positive control (histamine, 10 mg/mL) and a negative control were also used. Serum specific IgE was also identified with the customized, commercially available allergen microarray (ISAC; VBC-Genomics, Vienna, Austria) in our research laboratories. The results of SPTs were positive with egg yolk (wheal mean diameter, 7 mm), egg white (wheal mean diameter, 12 mm), Narlisim (wheal mean diameter, 8 mm) as undiluted drug, and histamine (wheal mean diameter, 6 mm). Serum specific IgE was detected against egg yolk (1.20 kUa/L), egg white (6.02 kUa/L), ovalbumin (5.56 kUa/L), ovomucoid (3.38 kUa/L), and lysozyme (1.82 kUa/L). The allergen microarray revealed IgE antibodies against Gal d 4 (lysozyme) (1.04 kUa/L).

The parents did not give consent to perform a challenge test with Narlisim or a food challenge with egg. Therefore, currently the patient remains on an egg-free diet, and since diagnosis, the parents were advised to carefully examine the list of food and drug ingredients looking for lysozyme or E1105 (as lysozyme is occasionally identified).⁵

Clinical adverse reactions to egg may occur in infants or children who have never eaten egg. They may be sensitized or even react at first egg ingestion.⁷ Our observation suggests that an immediate hypersensitivity to drug-containing lysozyme may also represent the first clinical manifestation of egg sensitization. Indeed, a similar case has been recently reported.⁶ The allergen microarray detected specific IgE antibodies to Gal d 4 (lysozyme) but not to Gal d 1 (ovomucoid) or Gal d 2 (ovalbumin). On the contrary, SPT results were positive with egg yolk and egg white, and ImmunoCAP detected IgE antibodies not only against lysozyme but also against other egg proteins (ovomucoid and ovalbumin). This apparent discrepancy might be explained by the fact that the allergens coated on the microarrays are highly purified and do not contain contaminants compared with the natural extracts used for both SPTs and ImmunoCAP. This finding is in agreement with the study by Walsh et al,

who detected 4 distinct groups of hen egg allergens binding IgE in the sera of egg-allergic children using especially purified proteins.⁸

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ANAPHYLACTIC SHOCK CAUSED BY BUFFALO'S MOZZARELLA CHEESE

Buffalo's mozzarella cheese is an Italian delicacy made from milk of water buffalos (*Bubalus bubalis*) originally domesticated in Asia approximately 7,000 years ago and imported to Italy by the Huns. In Italy, buffalo's milk is used for mozzarella cheese production, whereas the milk of water buffalo accounts for more than 50% of drinking milk in certain developing countries, such as India, Pakistan, Egypt, and Nepal.¹

We report the case of a 70-year-old German patient who for the first time developed an episode of anaphylaxis during a stay in Italy. Fifteen minutes after dining, he developed pruritus on his scalp and oropharyngeal swelling. The symptoms regressed spontaneously. One year

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