Case Report

Not all food additive related reactions originate from commercial foods: chronic urticaria due to home-made canned tomato

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Summary. Additives and preservatives in commercial foods have been implicated in the etiology of chronic urticaria, but such foods have not been widely accepted. In some countries, as in ours, people prefer to use home-made foodstuffs to avoid potentially hazardous commercial additives. However, not all home-made foodstuffs are safe, especially regarding allergies. In this report, we describe a patient with chronic urticaria due to home-made canned tomato prepared using "tomato drug" as a "safe (!)" additive.

Key words: chronic urticaria; food additives; acetylsalicylic acid.

Introduction

Many substances are added to foods and pharmaceutical products by many commercial concerns. Food additives and preservatives serve many functional purposes, ranging from coloring and flavoring to nutrient and antimicrobial. A large number of food and drug additives have been reported to cause adverse reactions such as urticaria, and more severe ones as anaphylaxis [1-3].

Case

A 28-year-old man was admitted into hospital on December 2002 with exacerbation of his generalized urticaria that had begun 2 months before. The complete diagnostic procedures including physical examination, chest radiography, complete blood count and differential sedimentation rate, total serum IgE, antinuclear antibody test, C3 and C4 determination, stool analysis for ova and parasites, T3, T4, TSH, and antibodies to peroxidase or thyroglobulin evaluation were performed. All results were within the normal range.

In the patient's history we found out developing diffuse urticarial plaques after taking aspirin twice, 4 years before. In addition, 3 years before, about 30 min after taking oral phenyramidol hydrochloride and meloxicam the patient had suffered anaphylaxis in the shape of diffuse larynx edema.

The patient was tested by skin prick test (SPT) with the common inhalant allergens (house-dust mites, molds, pollens, and animal dander) and also the food allergens. All test allergens were negative. As the patient had experienced larynx edema caused by allergy to drugs twice, the risk of anaphylaxis prevented us from giving him any challenge tests with medicines. The patient clearly stated that he had given up eating hen's eggs one year ago because of a diffuse urticarial plaque that lasted approximately 10 hours, and he also discontinued eating tomato due to a similar symptom elicited by tomato intake that lasted between 5 and 10 hours. The detailed interview of this patient disclosed that he lives in the countryside and every summer his mother prepares tomato preserve for meal and sauce elaboration during the rest of the year.

He said that the same foods did not affect him when he ate them elsewhere, and that he consumed no additive-containing foods.

When we learned that it was the homemade, and not the ready-made foods that caused this side effect, we focused on the preparation of meals at home. The most

Figure 1. An example of the «tomato drug» preparations marketed in Turkey.

commonly used ingredient in the patient's home was canned tomato, prepared by themselves. When the patient's mother was asked how did she make the preserves, she answered that she filled glass bottles with crushed tomato and added 1 g of «tomato drug» for each kilo of tomato as a preserve additive, instead of boiling the fruit (Fig. 1).

We searched the "tomato drug" added to the canned tomato, and we realized that this included acetylsalicylic acid. This was surprising, since the patient had allergic reactions against aspirin. After eliminating the tomato-medicated food, symptoms improved. Furthermore these symptoms had revealed the suspicious allergy mentioned in the patient's story. When the patient had defined his reaction to hen's egg, we found out that skin tests were negative. At the end of the detailed re-interview it was understood that the reaction in course had not originated from hen's egg, but from canned tomato cooked with hen's egg. Oral challenge was performed to the patient with the hen's egg. The result was negative.

Discussion

Chronic urticaria has various causes such as intolerance to certain food additives and non-steroidal anti-inflammatory drugs [4].

Non-steroidal anti-inflammatory drugs are among the most frequently used worldwide. These drugs are effective for the treatment of a wide spectrum of diseases: headache, fever, pain, and also as a food preservative. Their widespread use explains the very high incidence of intolerance; reactions range from asthma, rhinitis, to urticaria and/or angioedema, various skin eruptions and anaphylactic shock [5-7].

In our country, housewives often produce home-made canned tomato, and they add 1 gr. of "tomato drug" or acetylsalicylic acid per kilo of tomato as a preservative and to give flavor. It is obvious that cannings at home are one of the most important factors of enlightment regarding the etiology of chronic urticaria. Furthermore the story of the patient is very important for diagnosis. Everything that can reveal the etiology need to be asked to the patients with urticaria. Home-made foods can also contain additives. On account of this it may not be sufficient to remove only the industrial foods for containing additives from the diet in chronic urticaria.

References

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