Occupational contact urticaria from paprika

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Paprika is the dry powder of *Capsicum annuum* var. *longum*, an annual or biennal plant, belonging to the *Solanaceae* family. Native to tropical America, *Capsicum annuum* is widely cultivated in the world for its fruit, which is used as a vegetable and a condiment.

Case Report

A non-atopic, 25-year-old girl had worked in a biscuit factory for 4 years. Her job consisted mainly of preparing the dough and sprinkling it with paprika, by means of a holed measuring device, wit out any skin protection. 2 years after starting work, she developed wheals on the hands and forearms, whenever she came into contact with paprika powder. Wheals appeared 1–10 min after contact, were associated with rhinorrhoea and sneezing, and faded away almost 15 min later, by carefully washing the affected areas. She noticed no symptoms after ingestion of paprika. After stopping work, the contact urticaria completely resolved.

Prick tests with dust and storage mites, moulds, animal hair and skin dander, and pollens (including birch and mugwort) were negative, as well as those with grain extracts. Prick tests with vegetable (celery, carrot) and spice extracts (paprika, coriander, black pepper, curry and caraway) (Bracco®, Milan, Italy) were also performed and readings made after 15 min. Positive wheal-and-flare reactions to paprika (1 cm) and curry (4 mm) extracts were observed (histamine control: 3 mm). A prick test with paprika powder (as is) showed a strongly positive reaction. Prick tests with paprika and curry extracts were negative in 9 (5 atopic and 4 non-atopic) controls, while showing an irritant reaction to paprika in a non-atopic subject. Total IgE was 17 U.I./ml (normal 5–120), while specific IgE for paprika (Lofarma, Milan, Italy) was 1.6% (class 1) in our patient and negative in 10 controls.

Discussion

Immediate allergy to spices can induce symptoms in the skin, mouth, naso-pharynx and gastrointestinal tract and can also be responsible for anaphylaxis (1, 2). Positive prick tests and RASTs to spices are more common among atopic patients, especially those with birch and mugwort pollen allergy (3, 4). Clinical relevance of skin tests and RASTs to spices is often lacking (1, 5). Niinimäki et al. (1) found a good correlation between positive prick tests and immediate reactions to paprika. This spice contains capsaicin, which on skin contact can induce irritation, erythema and burning pain, occasionally with vesicular and bullous lesions (6, 7). Paprika has also been reported as causing protein contact dermatitis (8), allergic contact dermatitis (9, 10), rhinitis (1) and asthma (11), as well as contact urticaria (1).

Our patient developed contact urticaria from paprika, associated with rhinitis (stage 3) (12). She also showed a positive prick test to curry. Curry is a mixture of several spices, the kind and amount of which vary in different commercial powders. It contains some botanical varieties belonging to *Capsicum annuum*; thus, the concomitant positivity of prick tests with paprika and curry can be explained. Contact urticaria from paprika has rarely been reported. In spite of the irritant potential of capsaicin, the reaction observed in our patient is putatively immunological.

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