

# Severe reaction on SPT

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**Key words:** cypress; latex; skin prick test; urticaria/angioedema.

● SINCE THEIR introduction skin prick tests (SPTs) have been fundamental to the diagnosis of allergic diseases. More than a hundred reagents are available now (1). SPTs are considered safe and systemic reactions during their execution are extremely rare (1,2). Here we describe the case of a very severe systemic reaction during SPT to cypress extract.

The patient is a 35-year-old nurse who came to our Allergy Department because of itching and diffused erythema, cough, asthma, palpebral-labial edema, and rhinoconjunctivitis. This reaction began after using latex gloves. The patient also referred dyspnoea, conjunctivitis and rhinitis every time she entered the coronary unit in which she worked.

Because of a positive history suggesting a latex allergy, a blood sample was collected for latex radioallergosorbant assay (CAP RAST FEIA Pharmacia, Uppsala, Sweden) which was positive, showing a high concentration of specific IgE for latex (90.2 KU/l). Furthermore, the patient referred three months of oculorhinitis and asthma between December and February. For this reason, she received SPTs to common inhalants including cypress at 1/100 w/v (Bayropharm, DHS, Milan, Italy), using a 1-mm tip disposable lancette (Bayer).

Wheals less than ++ by comparison with histamine 10 mg/ml were considered negative (3). The patient showed a +++ cypress SPT 3 min after prick test execution, and showed diffused urticaria, dysphonia, dyspnoea and itching hands. The reaction completely faded within 1 h of therapy with intravenous chlorphenamine, intravenous bethamethasone and subcutaneous epinephrine.

**Urticaria/angioedema on skin prick test to cypress.**

This is the first case in the literature of a reaction after SPT to cypress. In our clinic we have performed 15 000 cutaneous tests for this allergen without any adverse reactions.

Such a systemic reaction after a cutaneous test for cypress might arise from cross-reactivity between latex and cypress antigens. In fact there are common carbohydrate antigens in the extract of *Cupressus arizonica* and *Ficus benjamina* latex, to which IgE of patients presenting with cypress allergy would react (4,5).

Previous studies have shown that latex SPT is a safe test, not causing any adverse reactions if correctly executed (6,7). In contrast, more recent studies have shown reactions to cutaneous tests for latex, which suggests that tests should be performed *in vitro* before being performed cutaneously on patients with a history of latex allergy with systemic symptoms (2,8,9). Therefore we propose that patients with severe allergic latex reactions in which allergy to cypress is suspected should undergo specific IgE evaluation for cypress before cutaneous tests in order to avoid systemic reactions.

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## Efficacy of a questionnaire for allergy

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**Key words:** allergic diseases; epidemiology; questionnaire; skin tests.

● THE PREVALENCE of rhinitis, asthma and atopic eczema/dermatitis is increasing in western countries, while other conditions such as food hypersensitivity and insect venom hypersensitivity, as defined by the revised nomenclature for allergy (1), are relatively uncommon. The standardized questionnaire is a useful tool to detect allergy in the general population.

Recently, a number of observations were made using the questionnaire set up for the ISAAC study (2), which deals with asthma, rhinitis and eczema.

We used a questionnaire which aims also to detect urticaria and reactions to insect stings, to evaluate the complete clinical spectrum of hypersensitivity in a targeted population, and we assessed its reliability using skin tests. The questionnaire comprised six questions, dealing with nasal and bronchial symptoms and their duration, with skin symptoms and their

relationship to specific causes, and with reactions to insect stings and their characteristics.

A population of industrial workers in a factory in Milan was investigated. All subjects had to answer to the questionnaire and those responding with positive answers were requested to undergo allergy skin tests consistent with the symptoms identified by the questionnaire.

Skin tests were performed by a standard panel of aeroallergens and food extracts, and by purified *Hymenoptera* venom. In total 304 subjects (203 males and 101 females, age 22–61 years, mean 40.2 years) were investigated. Of these, 207 answered negatively to all questions while 98 (32.2%) answered positively to one or more questions. Specifically, 87 (28.6%) had symptoms of respiratory allergy, five (1.6%) of food allergy, four (1.3%) of insect allergy, and two (0.6%) of drug allergy. The mean age was 39.6 years in symptomatic and 40.5 years in asymptomatic subjects.

Fifty-two subjects agreed to undergo the tests, while 46 refused. Table 1 reports the results according to different allergies.

In the present study the prevalence of hypersensitivity symptoms as assessed by the questionnaire was 32.2%, but according to the results of skin tests it was 21.7%, a figure that agrees with recent reports for western developed countries. Most symptoms were respiratory and they correlated very well with skin tests when seasonal, less when perennial. Non IgE-mediated disorders, such as idiopathic rhinitis, NARES, nasal polyposis, and nonallergic asthma, may account for this discrepancy. In accordance with known epidemiological data (3,4), the prevalence of

hypersensitivity to foods and insect stings was low. However, regarding foods, the possible correlation assessed by the questionnaire was only for skin symptoms, which overlooked anaphylaxis, causing an underestimation of reactions to foods, and to drugs. Moreover, according to results of the skin tests, food allergy was virtually absent, but the well-known low diagnostic accuracy of food extracts must be considered partly responsible. It is notable that the questionnaire completely prevented the reported phenomenon of exaggerated self-perception of food allergy (5), by excluding all symptoms unrelated to IgE-mediated reactions.

Our results suggest that a simple questionnaire consisting of a few questions can detect subjects with any kind of allergy in the general population. Its value may be improved by the addition of more questions dealing with anaphylaxis.

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## The ecNOS gene in allergic Czech children

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**Key words:** IgE-mediated allergy; nitric oxide synthase; NOS; polymorphism; steroid.

● ALLERGIC DISEASES are considered to be multifactorial, involving complex interactions between genetic and environmental influences. There is increasing evidence that nitric oxide (NO) plays a key role in regulation of airway function and in the pathophysiology of inflammation in IgE-mediated allergic diseases (1). NO is produced in increased amounts in asthma and allergic rhinitis. NO in exhaled air correlates with asthma severity, sputum eosinophils, and with peak flow variability, probably related to airway inflammation (2). That is why the gene for endothelial NO synthase (ecNOS; endothelial constitutive nitric oxide synthase), one of three NO synthases, seems to be a candidate gene. The gene encoding ecNOS is located on chromosome 7p35–36 and a number of polymorphisms have been identified in this gene. A 27-bp repeat in intron 4 has been associated with atopic asthma in Koreans (3).

Our study was carried out (1) to determine whether the allele and

Table 1. Positive skin tests according to the kind of symptoms

| Kind of symptoms               | Positive skin tests | (%)   |
|--------------------------------|---------------------|-------|
| Seasonal respiratory symptoms  | 29/31               | (94%) |
| Perennial respiratory symptoms | 5/17                | (29%) |
| Reactions to foods             | 0/3                 |       |
| Reactions to insect stings     | 1/2                 | (50%) |
| Overall symptoms               | 36/53*              | (68%) |

\*. One subject was tested with both foods and insect venoms.