False negative SPT after anaphylaxis

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Key words: anaphylaxis; natural rubber latex; refractory period; skin prick test; ultrasound cover.

• A 58-YEAR-OLD woman with a history of childhood eczema and food allergies underwent intravaginal ultrasound examination because of vaginal bleeding. The gynecologist used plastic gloves and Hibitane® gel. The ultrasound transducer had a natural rubber latex (NRL) cover (Ultracover® International Medical). Within 5 min, the patient developed edema and erythema on her face, and a sense of laryngeal swelling; her blood pressure was 70/50 mmHg. She was treated with intravenous epinephrine and hydrocortisone, and the symptoms soon disappeared. She also received peroral cetirizine for 5 days.

Skin prick test to latex negative for several weeks.

The first evaluation was made 12 days after the anaphylactic reaction. She had a positive skin prick test (SPT) to grass pollen, but not to standardized NRL solution (Stallergènes®, SA, Fresnes, France) or chlorhexidine chloride (1% aqueous solution) (Table 1). There was only a suggestive 2-mm reaction to one NRL glove extract (Lic®) (3). Two other glove extracts (Triflex®, Baxter and Armi®) remained negative. The NRL use test with a NRL glove (Triflex) (1) was negative. The commercial NRL CAP-RAST (Pharmacia, Uppsala, Sweden) was negative. In immunospot (2), no binding of specific IgE antibodies to the NRL cover or Hibitane gel could be demonstrated in the patient's serum.

Three months after the anaphylaxis, our patient had positive SPT reactions to standardized NRL solution, to several NRL glove extracts, and to an extract made from the ultrasound NRL cover (Table 1). The commercial NRL RAST was negative. In immunospot, no binding of specific IgE antibodies could be demonstrated to the ultrasound cover or several other NRL extracts despite a very high NRL allergen content in the shield (393 RLU/ml) as compared to low-allergenic NRL gloves (<10 RLU/ml) in latex RAST inhibition.

Experimental studies indicate that stimulation of mast cells results in two opposing reactions, activation events that cause degranulation and desensitization events that inhibit mediator release. Mast cells display both specific and nonspecific desensitization (3).

Our patient had not taken cetirizine for 7 days before the first SPT. Reactions to histamine were equal in the two tests. The patient reacted to grass pollen at the same time that the NRL tests were negative. This could be explained by specific desensitization of skin mast cells. Specific mast-cell desensitization is also thought to be the principal mechanism of acute penicillin desensitization. In penicillin-desensitized patients, SPT reactions to penicillin determinants diminish or become negative, while reactions provoked by histamine and environmental allergens are not affected by the desensitization procedure (4).

In one report of 38 patients with insect-sting anaphylaxis, the accurate diagnosis could not be confirmed in eight patients 1 week after anaphylaxis with SPT or RAST (5). Our study also supports the recommendation to postpone the SPT after anaphylaxis or repeat the negative tests after some months. However, *in vitro* tests may remain negative even after this period, because the SPT is more sensitive than *in vitro* tests (1).

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Table 1. Results of skin prick tests

Test substance	12 days after anaphylaxis	3 months after anaphylaxis
Histamine hydrochloride 10 mg/ml	5 mm	5 mm
Diluent control	0 mm	0 mm
Timothy	5 mm	NT
Meadow fescue	4 mm	NT
NRL (Stallergènes)	0 mm	4 mm
Ultrasound shield extract*	NT	4 mm
Surgtex® glove extract*	NT	5 mm
Lic® glove extract*	2 mm	NT
Triflex® glove extract*	0 mm	4 mm
Armi® glove extract*	0 mm	2 mm
Banana	0 mm	0 mm
Casein 10 mg/ml	0 mm	0 mm
Hibitane® gel (as is)	NT	0 mm
Chlorhexidine 10 mg/ml (aq.)	0 mm	0 mm

NT: not tested.
Lic glove extract was replaced with Surgtex extract in our glove extract series between the two tests.
*Glove extracts were prepared by soaking 1 g glove pieces in 5 ml 9 mg/ml saline for 15 min. Rubber shield extract was made similarly.

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Anaphylaxis after eating figs

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Key words: anaphylaxis; cross-reactivity; *Ficus benjamina*; *Ficus carica*; fig fruit.

• The fig (*Ficus carica*), which belongs to the family Moraceae and the genus *Ficus,* has been until now a rare cause of food allergy. *Ficus benjamina*, a member of the same family (1), known also as Java willow, Ceylon willow, or Bali's fig tree, is used frequently to adorn public buildings and homes (2).

Underlying IgE sensitization to *Ficus benjamina.*

We present the case of a 35-year-old woman who, in February 1997, immediately after eating a dried fig, presented palatine pruritus, sneezing, nasal obstruction, hydrorrhea, sore throat, sibilant dysnea, cough, and bilateral palpebral angioedema that ceased several hours after treatment with corticosteroids and epinephrine. She had tolerated the eating of figs up to that time and since then had not eaten any. She had had a specimen of *F. benjamina* in her house for around 6 years in 1996, after touching its leaves, she had suffered an episode of severe bilateral palpebral angioedema, watery eyes, ocular pruritus, and dry cough. Since then, she had also experienced blocked nose, hydrorrhea, watery eyes, and dry cough in her domestic environment, the symptoms disappearing when she left the house.

Skin prick tests were positive with dried fig, skin and pulp of green fig, leaf and latex of *F. benjamina* (prick-prick), and commercial extract of fig (prick); they were negative with kiwi, banana, hops, chestnut, *Hevea brasiliensis* latex, common environmental pneumoallergens (prick), and *Ficus lyrata* (prick-prick).

Total IgE was 23.6 kU/l. Specific IgE to fig was 4.2 kU/l; to *H. brasiliensis* latex, <0.35 kU/l (CAP System^{TM}, Pharmacia Diagnostics, Uppsala, Sweden).

Spirometry gave values within reference limits. The nonspecific bronchial hyperreactivity test with histamine was positive (PC_{20}: 0.63 mg/dl).

SDS–PAGE immunoblotting (IgE) and inhibition were performed with extracts prepared by us with dried and fresh figs, and with *F. benjamina* (3). In SDS–PAGE immunoblotting, a band of 35 kDa was detected in dry fig and fresh fig. The *F. benjamina* extract contained two allergens of 35 and 19 kDa that were totally and partially inhibited by fresh and dried fig, respectively. The essay revealed cross-reactivity between *F. benjamina* and fig (Fig. 1). The patient refused a bronchial challenge test with the extract of *F. benjamina*, claiming to be certain of the association between exposure and the symptoms she had presented. By our

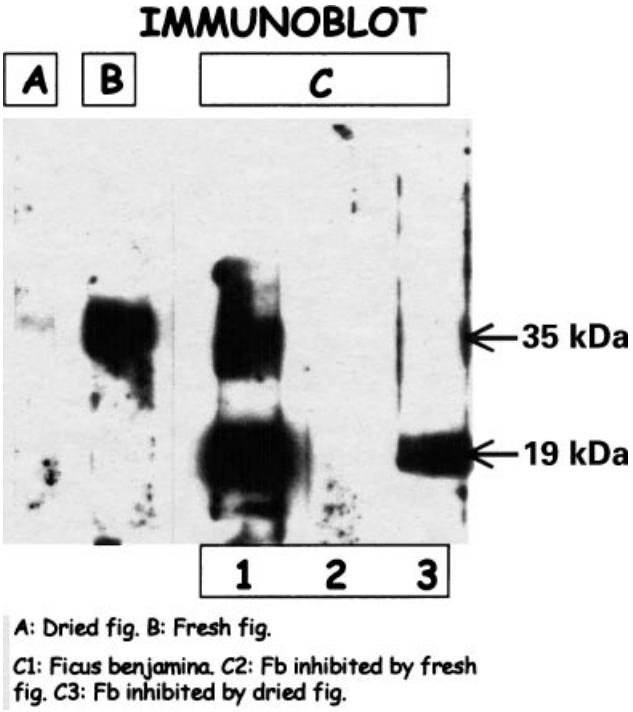

Figure 1.