

sodium salicylate (after 3 min, rhinoconjunctivitis, generalized urticaria, and facial edema). All other analgesics (paracetamol, ibuprofen, propyphenazone, and diclofenac) and low-molecular-mass food components (several food dyes, potassium disulfite, sodium nitrite, sorbic acid, PHB esters, and sodium propionate) were tolerated without symptoms. The patient was told to avoid ASA and food possibly containing benzoates or salicylates. For 3 years, she has had no further hypersensitivity reactions.

Clinical cross-reactivity is not uncommon when patients with clinical reactions to ASA are challenged also with sodium salicylate or sodium benzoate: 17.4% of 167 patients exhibited clinical reactions to both ASA and sodium salicylate (1), and 17.4% of 132 patients to both ASA and sodium benzoate (2). Only a few patients with immediate-type skin test reactions to ASA have been reported so far (3). In these studies, a conjugate of ASA with polylysine was used for the skin prick test. In a large series of patients with clinical immediate-type hypersensitivity to mild analgesics including ASA, skin prick test reactions to unconjugated ASA were not found (4). Nor has *in vitro* testing provided conclusive evidence of an immunologic mechanism of reactions to ASA. Only in exceptional patients have specific IgE antibodies to ASA been demonstrated in the serum (5, 6).

In our patient, the history of severe clinical reactions, the reproducible skin prick test reactions to structurally related substances (Fig. 1), and the occurrence of challenge reactions to rather low doses of the three compounds support the idea of an allergic mechanism.

*Klinik und Poliklinik für Dermatologie und Allergologie
Ludwig-Maximilians-Universität
Frauenlobstraße 9-11
80337 München
Germany

Tel. 0049-89-5160-6170
Fax: 0049-89-5160-6162
E-mail: Franziska.Rueff@lrz.uni-muenchen.de

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References

1. KARL S, BREDERLOW C, BURGER C. Nahrungsmittel-Unverträglichkeiten bei Acetylsalicylsäure-intoleranten Patienten. *Z Haut Geschlechtskr* 1994;**69**:449–450.
2. WÜTHRICH B, FABRO L. Acetylsalicylsäure- und Lebensmitteladditiva-Intoleranz bei Urtikaria, Asthma bronchiale und chronischer Rhinopathie. *Schweiz Med Wochenschr* 1981;**39**:1445–1450.
3. PHILLS JA, PERELMUTTER L. IgE mediated and non-IgE mediated allergic-type reactions to aspirin. *Acta Allergol* 1974;**29**:474–490.
4. PRZYBILLA B. Anaphylactoid reactions to mild analgesics. In: RING J, BURG G, editors. *New trends in allergy II*. Berlin: Springer, 1986:262–271.
5. DE WECK AL. Immunological effects of acetylsalicylic acid anhydride, a contaminant of commercial acetylsalicylic acid preparations. *Int Arch Allergy* 1971;**41**:393–418.
6. BLANCA M, PEREZ E, GARCIA JJ, MIRANDA A, TERRADOS S, VEGA JM. Angioedema and IgE antibodies to aspirin: a case report. *Ann Allergy* 1989;**62**:295–298.

String bean-induced anaphylaxis

R. Asero*, G. Mistrello, D. Roncarolo, S. Amato, R. van Ree

Key words: anaphylaxis; immunoblotting; lipid transfer protein (LTP); skin test; string bean.

• ALLERGY to legumes other than peanut and soybean has been rarely reported in adults. We report a case of string bean-induced anaphylaxis. A 20-year-old girl

experienced collapse, gastroenteritis, and generalized urticaria 1 h after eating pasta, grilled fish, and

boiled string beans. She had the following

Allergy to a 35-kDA, heat-stable allergen.

history:

- 1) oral allergy syndrome from peach, hazelnut, walnut, and almond
- 2) urticaria from fresh fennel, boiled cabbage, mustard, commercial hazelnut cream, and commercial pear juice
- 3) acute scalp dermatitis after using shampoos containing fruit extracts.

The patient underwent skin prick test (SPT) with

- 1) a large series of airborne allergens
- 2) apple, pear, peach, cherry, plum, almond, celery, carrot, peanut, bean, soybean, pea, rice, corn, wheat, barley, oats, onion, garlic, orange, tomato and potato extracts (DHS)
- 3) apple peel and peach peel extracts (Lofarma, Milan, Italy): these extracts are rich in lipid transfer protein (LTP) and do not contain Bet v 1 and profilin (1, 2)
- 4) fresh apple, hazelnut, peach, fennel, raw string bean, and cooked string bean (20 min in boiling water).

IgE specific for cross-reactive allergens (Bet v 1, Bet v 2, and CCD) were detected by RAST (1). Reactivity to LTP purified from peach peel by chromatographic means was detected by ELISA (1). Cross-reactivity to LTP from different vegetable foods was assessed by ELISA inhibition experiments; apple, walnut, hazelnut, peanut, rice, corn, and fennel extracts were used as inhibitors (1). Peach and ovalbumin were used as positive and negative controls, respectively. Finally, IgE reactivity to both peach and boiled string bean extracts was assessed by immunoblot, as previously described (2).

No reactivity to airborne allergens was found. The patient showed strong (3+/4+) reactivity to rice, plum, celery, peanut,

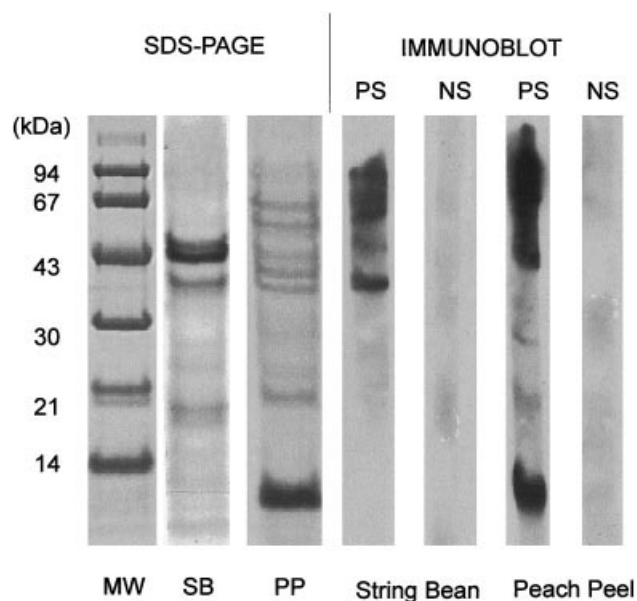


Figure 1. SDS-PAGE profile of string bean (SB) and peach peel (PP) extracts and immunoblotting results on both extracts with patient serum (PA) or pool of normal sera (NS).

soybean, and bean, and slight skin reactivity (2+) to cherry, garlic, onion, orange, pea, kiwi, wheat, and barley on SPT with commercial food extracts. A very strong reactivity (4+) to both apple peel and peach peel extracts, as well as to fresh fennel, apple, hazelnut, and peach was observed. SPT with fresh string bean induced a slight wheal (2+), whereas the cooked bean induced a much stronger reaction (4+).

No sensitivity to cross-reactive birch pollen allergens was found. Serum showed a moderate reactivity to peach peel LTP (OD 557) that was reduced by 96%, 95%, 31%, 71%, 73%, 77%, 69%, and 81% by preabsorption with peach, apple, walnut, hazelnut, peanut, corn, rice, and fennel extracts, respectively, and by 19% by preabsorption with ovalbumin. Peach immunoblot showed an IgE reactivity to a 10-kDa protein (LTP) and a broad reactivity at high molecular mass (Fig. 1). String bean immunoblot showed a single band at about 35 kDa and a broad reactivity at high molecular mass, but no reactivity at low molecular mass (Fig. 1).

This patient was hypersensitive to two distinct vegetable food allergens, namely,

LTP in several plant-derived foods and a 35-kDa protein in string bean. The lack of reactivity at 10 kDa on bean immunoblot indicates the heat lability of LTP. Boiled string bean maintained a strong allergenicity, as previously described for other legumes (3). Interestingly, it induced a much stronger reaction than the raw bean, suggesting a possible increase in allergenicity of this food with heat treatment. This has been observed in other allergies to vegetable foods (4). In contrast to most previous studies of legume food allergy, our patient showed IgE reactivity to a single protein at about 35 kDa and a smear at high molecular mass. The heat stability of our allergen suggests that it differs from the heat-labile 32-kDa class I chitinase recently described in green beans (5) and that it might represent a novel allergen.

*Ambulatorio di Allergologia
Ospedale Caduti Bollatesi
Via Piave 20
20021 Bollate (MI)
Italy

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References

- ASERO R, MISTRELLO G, RONCAROLO D, et al. Lipid transfer protein: a pan-allergen in plant-derived foods that is highly resistant to pepsin digestion. *Int Arch Allergy Immunol* 2000;**122**:20–32.
- ASERO R, MISTRELLO G, RONCAROLO D, CASARINI M, FALAGIANI P. Allergy to nonspecific lipid transfer proteins in Rosaceae: a comparative study of different *in vivo* diagnostic methods. *Ann Allergy Asthma Immunol* 2001 (in press).
- IBANEZ SANDIN D, MARTINEZ SAN IRENEO M, MARANON LIZANA F, FERNANDEZ-CALDAS E, ALONSO LEBRERO E, LASO BORREGO T. Specific IgE determinations to crude and boiled lentil (*Lens culinaris*) extracts in lentil-sensitive children and controls. *Allergy* 1999;**54**:1209–1214.
- MALANIN K, LUNDBERG M, JOHANSSON SG. Anaphylactic reaction caused by neoallergens in heated pecan nut. *Allergy* 1995;**50**:989–991.
- SANCHEZ-MONGE R, BLANCO C, DIAZ PERALES A, et al. Class I chitinases, the panallergens responsible for the latex-fruit syndrome, are induced by ethylene treatment and inactivated by heating. *J Allergy Clin Immunol* 2000;**106**:190–195.

Delayed hypersensitivity to cefotetan

A. Romano*, M. Di Fonso, M. C. Artesani, M. Viola, F. B. Adesi, A. Venuti

Key words: cefotetan; delayed hypersensitivity; intradermal tests.

● CEFOTETAN is a second-generation cephalosporin active particularly against anaerobic bacteria. Although several adverse reactions to this drug have been described, including anaphylactic shock (1), only one delayed hypersensitivity reaction