

spore extraction method has been devised, and a reasonable number of available patients were skin test and RAST positive (4).

The majority of the basidiomycete-sensitive subjects are atopic according to their personal history, clinical symptoms, and skin test reactivity to common inhalant allergens (5), as was the case in our patient. Since no suitable extracts are commercially available, the production of well-defined allergenic extracts and the characterization of specific allergens at the molecular level are needed (5).

A strict environmental control of basidiomycetes spores is reasonable in the industry to reduce the high risk of sensitization and possible development of immunologic lung diseases. The wearing of appropriate face masks in all workplaces where significant levels of spores are detected, and monitoring environmental spore levels may be useful in the prevention of this disease (6).

*Allergy Unit
Department of Dermatology
University Hospital
Gloriastrasse 31
CH-8091 Zurich
Switzerland
Tel. +41-1 255 11 11
Fax: +41-1 255 45 49
E-mail: wuethric@derm.unizh.ch

Accepted for publication 13 June 2000
Allergy 2000; 55:975-976
Copyright © Munksgaard 2000
ISSN 0105-4538

References

- BRINGHURST LS, BYRNE RN, GERSHON-COHEN J. Respiratory disease of mushroom workers. *J Am Med Assoc* 1959.
- SASTRE J, IBANEZ MD, LOPEZ M, LEHRER SB. Respiratory and immunological reactions among shiitake (*Lentinus edodes*) mushroom workers. *Clin Exp Allergy* 1990;20:13-19.

- SHIUCHIJO K, KONDO T, YAMADA M, AOKI M, SHIMUYAMA K, TAKA T. A case of bronchial asthma caused by spores of *Lentinus edodes* (Berk) Sing. *Jpn J Allergy* 1969;18:35-39.
- HORNER WE, IBANEZ MD, LIENGSWANGWONG V, SALVAGGIO JE, LEHRER SB. Characterization of allergens from spores of the oyster mushroom, *Pleurotus ostreatus*. *J Allergy Clin Immunol* 1988;82:978-986.
- HELBLING A, GAYER F, BRANDER K. Respiratory allergy to mushroom spores: not well recognized, but relevant. *Ann Allergy Asthma Immunol* 1999;83:17-19.
- TARVAINEN K, SALONEN JP, KANERVA L, ESTLANDER T, KESKINEN H, RANTANEN T. Allergy and toxicodermia from shiitake mushrooms. *J Am Acad Dermatol* 1991;24:64-66.

Anaphylaxis to cherimoya

I. M. Sánchez-Guerrero*, A. I. Escudero,
J. A. Tortosa, M. Lombardero

Key words: anaphylaxis; cherimoya; cross-reactivity; latex; RAST.

● IMMEDIATE allergic reactions to proteins of natural rubber latex represent an important occupational problem among health-care workers, who frequently wear gloves to avoid infections (1). Latex is a complex allergen mixture with major protein bands of 10-14, 30-45, and about 67 kDa (2). On the other hand, hypersensitivity to *Annona cherimola* is infrequent; only two cases of cherimoya allergy have been described (3, 4). Association between latex allergy and various fruit sensitizations has been reported. Thus, relevant IgE-binding proteins with molecular masses of 30-35 kDa have been detected in fruits (5). In this way, class I chitinases could be the

panallergens responsible for the latex-fruit syndrome (6).

We present a 43-year-old nurse, with a history of rhinitis and asthma due to *Parietaria* pollen sensitization, as well as acute contact urticaria together with rhinoconjunctivitis and asthma clearly related to exposure to glove dust. Two years before, the patient presented lip pruritus, suddenly followed by facial angioedema, generalized urticaria, bronchospasm, and severe hypotension within a few minutes after ingestion of cherimoya. Since the reaction proved resistant to treatment with epinephrine, β_2 -agonists, theophylline, corticosteroids, antihistamines, and oxygen, intubation with 100% oxygen ventilation and sympathomimetic drugs were required for the patient's recovery.

The patient exhibited positive skin prick tests to *Parietaria* pollen, latex, and crude cherimoya extracts. In serum from the patient, the presence of specific antilatel IgE (12.2 PRU) and anticherimoya IgE (10.5 PRU) was confirmed by RAST, while SDS-PAGE immunoblotting demonstrated the existence of one 43-kDa allergen to latex and two bands of 34 and 42-kDa to crude cherimoya extract (Fig. 1). Existence of cross-reactivity between the two extracts was demonstrated by RAST inhibition. The experiment using cherimoya as solid phase and latex as inhibitor extract showed maximal inhibition (>90%), while in the cross-analysis (latex as solid phase and cherimoya as inhibitor extract) the maximal inhibition raised was about 50%. These results could be due to a higher concentration of cross-reacting allergen in the latex extract.

This is the first time that a potentially life-threatening anaphylactic reaction induced by sensitization to cherimoya has been described. Results of the experimental work carried out have proved the existence of cross-reactivity between latex and cherimoya, increasing the list of foods

involved in the latex-fruit syndrome. Moreover, one of the two major IgE-binding proteins in cherimoya extract with a molecular mass of 34 kDa could belong to the class I chitinases, a fact that would be interesting to confirm in the future.

*Inmaculada Sánchez-Guerrero Villajos
Ricardo Gil 26, 2° B
30002 Murcia
Spain
Tel. 34-968-22 18 16
Fax: 34-968-44 24 21
E-mail: isv01mu@nacom.es

Accepted for publication 13 June 2000
Allergy 2000; 55:976–977
Copyright © Munksgaard 2000
ISSN 0105-4538

References

1. YASSIN MS, LIERL MB, FISHER TJ, O'BRIEN K, CROSS J, STEINMETZ C. Latex allergy in hospital employees. *Ann Allergy* 1994; **72**:245–249.
2. SLATER JE, CHHABRA SK. Latex antigens. *J Allergy Clin Immunol* 1992;**89**:673–678.

3. FLORIDO JF, SAENZ B, GONZÁLEZ P, VALLECILLO A, PASCUAL C, MARTÍN M. Sensibilización a chirimoya y otras frutas en el Síndrome de Alergia Oral. *Rev Esp Alergol Inmunol Clin* 1994;**9** Suppl 1:91.
4. GONZALO MA, MONEO I, VENTAS P, POLO F, GARCÍA JM. IgE-mediated hypersensitivity to custard-apple. *Allergy* 1997;**52**:597.
5. WADEE AA, BOTING LA, RABSON AR. Fruit allergy: demonstration of IgE antibodies to a 30 kd protein present in several fruits. *J Allergy Clin Immunol* 1990;**85**:801–807.
6. DÍAZ-PERALES A, COLLADA C, BLANCO C, et al. Class I chitinases with hevein-like domain, but not class II enzymes, are relevant chestnut and avocado allergens. *J Allergy Clin Immunol* 1998;**102**:127–133.

Postoperative rash to ceftriaxone

M. M. San Miguel*, P. Gaig, J. Bartra, P. García-Ortega

Key words: ceftriaxone; cephalosporins; delayed hypersensitivity; drug allergy; postoperative rash.

• β -LACTAM drugs are the most commonly prescribed antibiotics and cause the most common drug allergies seen clinically (1). Allergy to them has long been thought to be associated with type I IgE-mediated hypersensitivity. Nevertheless, in recent years, several type IV, cell-mediated

Delayed hypersensitivity with positive patch and intradermal tests.

systemic reactions have been reported. These reactions often consist of cutaneous symptoms, with maculopapular rash being the most typical clinical manifestation (2). Some recent reports demonstrate the usefulness of intradermal and patch tests in the diagnosis of such delayed reactions (2, 3). A case of delayed hypersensitivity to cephalosporins confirmed both by intradermal and patch tests is reported.

A nonatopic, 62-year-old man suffered a generalized maculopapular rash 48 h after a laparoscopic cholecystectomy. Propofol, norcuronium, fentanyl, and dihydrobenzoperidol were used as anesthetic drugs; intravenous ketorolactrometamol and omeprazol were started after surgery. A single dose of intravenous ceftriaxone (1 g) was administered as surgical prophylaxis. Nine years earlier, the patient had started treatment with penicillin, metronidazol, and ceftriaxone for a suppurative cerebral abscess, and a maculopapular rash had developed 48 h later.

An allergologic work-up was performed. Total serum IgE was within normal limits. Specific IgE detections to penicilloyl G and

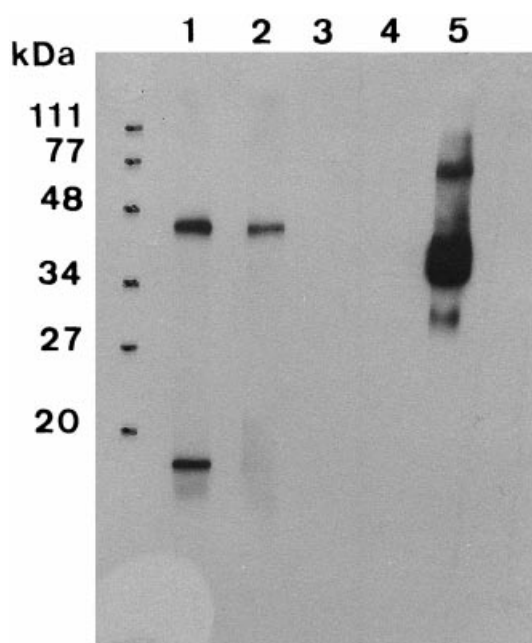


Figure 1. IgE-binding fractions to latex and cherimoya based on molecular mass (SDS-PAGE immunoblotting) in serum from patient. Lane 1) positive control (latex); lane 2) latex plus patient serum; lane 3) negative control for latex; lane 4) negative control for cherimoya; lane 5) cherimoya plus patient serum.