

erythema, U/AE, severe hypotension, or laryngeal edema.

Informed consent was given by every patient undergoing oral provocation testing with rofecoxib.

At the end of the challenge procedure, all 33 patients tolerated the dosage of 25 mg rofecoxib. No adverse reactions were observed in any of these patients.

Rofecoxib seems to be a safe drug in patients who have had U/AE with at least two different NSAIDs. These findings may indicate that rofecoxib should play a major role in the treatment of pain and inflammation in such patients. These results also appear to confirm the cyclooxygenase theory (3). Nevertheless, further challenge procedure studies, performed with rofecoxib and other new highly selective COX-2 inhibitors, on a larger series of patients, and perhaps using higher doses, will be necessary.

*Hospital Ramón y Cajal
Department of Allergy
Ctra. Colmenar
Km 9,100
E-28034 Madrid
Spain
Fax: +3491 3368453
E-mail: mhm01m@nacom.es

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Sensitization to rubber additives

E. Nettis*, M. C. Colanardi, A. Ferrannini, A. Tursi

Key words: latex; rubber chemicals; type I allergy; type IV allergy.

● NATURAL rubber latex and the chemicals used as accelerators and antioxidants during rubber manufacture are well-known allergens, the former usually causing type I hypersensitivity

reactions and the latter type IV (1). This study aimed to determine

whether there is a concomitant delayed sensitization to rubber chemicals in patients with type I allergy to latex.

The study involved 146 subjects (86 females, 60 males), aged 3–66 years (mean = 29.5), referred to the Allergology and Clinical Immunology Department of the Polyclinic Hospital in Bari (Italy). All patients reported a history suggestive of latex allergy.

Skin prick tests (SPTs) with a commercial extract of nonammoniated latex (Stallergènes, Paris, France) were performed in 71 subjects. SPTs with extemporaneous extracts prepared as previously reported (2) were performed in eight subjects; 65 subjects underwent SPTs with both commercial extract of latex and extemporaneous extract. Histamine hydrochloride (10 mg/ml) was used as positive control, and physiologic saline as negative control. A prick test was considered positive if the wheal measured was 3 mm larger than the wheal of the negative control.

Specific IgE to latex was measured in the sera of 127 subjects with a FEIA assay (Pharmacia CAP System; Uppsala, Sweden).

No increased risk in patients with IgE-mediated latex allergy.

Table 1. Prominent clinical findings in 15 of 33 NSAID-intolerant patients who tolerated rofecoxib

Patient no.	Previous oral challenge	Symptoms associated with NSAID intake	Implicated drugs	Rofecoxib 25 mg oral challenge
1	ASA+	U/AE	ASA, dipyrone	Negative
2	ASA+	AE	ASA, ibuprofen	Negative
3	ASA+ dipyrone+	U/AE	ASA, propyphenazone	Negative
4	ASA+	AE	ASA, ibuprofen	Negative
5	ASA+	U	ASA, ibuprofen	Negative
6	Dipyrone+	U	ASA, dipyrone	Negative
7	ASA+ dipyrone+	U	ASA, propyphenazone	Negative
8	–	U	ASA, dipyrone, naproxen, propyphenazone	Negative
9	–	U	ASA, dipyrone, propyphenazone	Negative
10	–	AE	ASA, ibuprofen, dipyrone	Negative
11	–	U/AE	Piroxicam, diclofenac, dipyrone	Negative
12	–	AE	ASA, ibuprofen, dipyrone	Negative
13	–	U/AE	ASA, dipyrone, indomethacin	Negative
14	–	U	ASA, dipyrone, clonixin	Negative
15	–	U	ASA, dipyrone, diclofenac	Negative

ASA: acetylsalicylic acid.

A positive reaction was defined as a value of >0.35 kU/l.

All patients were patch tested with a rubber additive series (Table 1). Patch testing was conducted with Finn Chambers affixed with Scampor tape to the upper back. The patches were removed after 48 h, and reactions were interpreted at 48 and 96 h. All reactions were scored in accordance with the recommendations of the International Contact Dermatitis Research Group (3). Ambiguous or irritant reactions were considered negative.

A total of 143 patients had a positive SPT with commercial extract and/or with extemporaneous extract, and 89 patients had a positive CAP-FEIA. The diagnosis of clinical type I latex allergy was made when the patient had a definite history of reactions to latex exposure and a positive IgE test. By definition, all 146 patients should be considered latex allergic. Eighteen patients (12.3%; 15 females and three males) had a positive patch test, eight of them (44.4%) having polysensitization.

The most frequent sensitizing agents were Thiuram mix (eight cases [44.4%]), tetramethylthiuram monosulfide (seven cases [38.9%]), and Carba mix (six cases [33.3%]). There was a frequent combination between Thiuram mix and Carba mix; in fact, 25% of patients reactive to Thiuram mix were positive to Carba mix.

The prevalence of type IV allergy to rubber chemicals in the general population ranged from 3.8% to 14.7% (4, 5). Wilkinson & Burd (6) proved positive patch test reactions to rubber ingredients in 30% of the patients with chronic hand eczema and a history of contemporary rubber glove use.

This study shows a similar prevalence of rubber additives sensitivity to that found in the general population. Although our patients had had regular contacts with

Table 1. Positive patch test results

Rubber allergens	No. positive reactions
1. Thiuram mix 1% pet	8
2. Tetramethylthiuram monosulfide 0.25% pet	7
3. Tetramethylthiuram disulfide 0.25% pet	5
4. Tetraethylthiuram disulfide 0.25% pet	1
5. Dipentamethylenethiuram disulfide 0.25% pet	1
6. Black rubber mix 0.6% pet	5
7. <i>N</i> -Isopropyl- <i>N</i> -phenyl-4-phenylenediamine 0.1% pet	5
8. <i>N,N</i> -Diphenyl-4-phenylenediamine 0.25% pet	2
9. <i>N</i> -Cyclohexyl- <i>N</i> -phenyl-4-phenylenediamine 0.25% pet	3
10. Carba mix 3% pet	6
11. 1,3-Diphenylguanidine 1% pet	5
12. bis(Diethyldithiocarbamate) zinc 1% pet	1
13. bis(Dibutyldithiocarbamate) zinc 1% pet	0
14. Mercapto mix 2% pet	1
15. <i>N</i> -Cyclohexylbenzothiazyl sulfenamide 0.5% pet	1
16. Dibenzothiazyl disulfide 0.5% pet	0
17. Morpholinyl mercaptobenzothiazole 0.5% pet	0
18. Mercaptobenzothiazole 0.5% pet	0
19. Mercaptobenzothiazole 2% pet	1
20. Hexamethylenetetramine 1% pet	1
21. Dithiomorpholyn 1% pet	1
22. Diphenylthiourea 1% pet	1
23. Dibutylthiourea 1% pet	0
24. Diethylthiourea 1% pet	0
25. Ethylene thiourea 1% pet	0
26. Zinc dimethyldithiocarbamate 1% pet	0
27. Triethylene-tetramine 1% pet	0
28. Phenyl- β -naphthylamine 1% pet	0
29. 2,2,4-Trimethyl-1,2-dihydro-quinoline 1% pet	0
30. Hydroquinone mono-benzylether 1% pet	0
31. Dodecylmercaptan 0.1% pet	0

Pet: petrolatum.

Thiuram mix and Carba mix were positive in one patient, and separate ingredients negative in one patient.

different rubber products in everyday life, the low percentage of positive patch tests to rubber additives among them suggests that rubber additives cause a delayed-type reaction independent of specific IgE responses to latex proteins. This may depend on both cellular clones and the pathogenic mechanism involved in type I and type IV reactions (7).

Although the coexistence of type I reaction to latex and sensitization to rubber additives is not common, it is necessary to assess hypersensitivity in individuals both frequently exposed to latex products and having experienced contact dermatitis. In fact, sensitization to

latex could be enhanced in pre-existing eczema, due also to rubber additives, by damage to the skin barrier function, leading to increased adsorption of latex proteins.

*Cattedra di Allergologia e Immunologia Clinica
Padiglione Chini – Policlinico
Piazza Giulio Cesare
70124 Bari
Italy
Tel. 0039 080 5592821
Fax: 0039 080 5478780
E-mail: e.nettis@allergy.uniba.it

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Anaphylaxis to buckwheat

R. Schiffner, B. Przybilla*, T. Burgdorff, M. Landthaler, W. Stolz

Key words: anaphylaxis; buckwheat; cross-reactivity; fig; latex.

● In patients sensitized to buckwheat or fig, cross-reactivity to natural rubber latex (NRL) has been described and confirmed by RAST inhibition in only a few patients (1–3). We here present a patient with NRL allergy who developed an anaphylactic reaction after ingestion of a muesli bar containing buckwheat and fig.

A 27-year-old nurse with known allergy to NRL developed prickling of her palms,

generalized urticaria, nausea, and mild laryngeal edema 10 min after eating a few pieces of a

muesli bar. Skin prick tests with common inhalants

(house-dust mite, and grass and birch pollen) and foods (hazelnut, celery, almond, and soya) in commercially available extracts showed no positive reactions 8 weeks later. In contrast, a prick-to-prick test of the muesli bar itself yielded an immediate 2+ reaction. After contacting the producer, we were provided with all 20 ingredients of the muesli bar: prick-to-prick tests were now performed with apple, blackberry powder, buckwheat, candied orange peel, cherry powder, citric acid, fig, hazelnut, honey, marzipan,

A case of cross-reactivity with latex and fig.

natural flavor, raspberry powder, rolled oats, rose hip powder, sea buckthorn powder, soyapan, sultana, wafer, wheat bran, and whole soya. In this patient with NRL allergy, buckwheat and fig (1, 4–6) were the most suspicious ingredients, but only to buckwheat was an immediate 2+ skin test reaction found. Specific serum IgE antibodies were found to NRL (18.1 kU/l; CAP class 4), buckwheat (3.29 kU/l; CAP class 2), and fig (0.37 kU/l; CAP class 1). Total serum IgE was not elevated (77.8 kU/l). Preparations of NRL and fig strongly inhibited the binding of the patient's IgE antibodies to the buckwheat CAP (Fig. 1), whereas buckwheat or fig extracts inhibited IgE binding to the NRL CAP to a lesser degree. No oral challenge test could be performed in this patient. As the patient

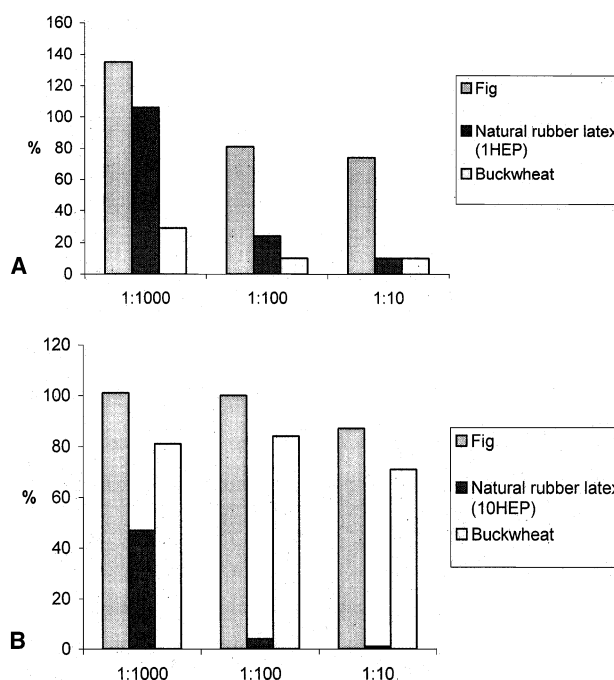


Figure 1. A) Inhibition of IgE binding to buckwheat CAP by buckwheat, natural rubber latex, or fig. Patient's serum was preincubated with respective allergen preparations overnight. Percentage of binding is shown in relation to results obtained with serum not preincubated (100%). B) Inhibition of IgE binding to natural rubber latex CAP by buckwheat and fig. Patient's serum was preincubated with respective allergen preparations overnight. Percentage of binding is shown in relation to results obtained with serum not preincubated (100%).

Preparations for inhibition

Fig: 3 g mashed fig incubated in 1 ml buffer for 30 min, then centrifuged.

Buckwheat: 1 g ground buckwheat incubated in 10 ml buffer for 30 min, then centrifuged.

Natural rubber latex: Soluprick SQ latex, 1 or 10 HEP (ALK Abelló, Hørsholm, Denmark).