

the collection of blood samples. They were also required to fill in a simple questionnaire on their personal allergic history (previous or concomitant asthma and/or rhinitis), the existence of potential occupational risk factors, and the possible symptoms (itching, cough, wheezing, angioedema) due to latex exposure; for instance, in the case of latex gloves, manipulation or diagnostic/surgical procedures. Health-care workers were excluded from the study, since they represent a high-risk category. The concentration of latex-specific IgE in serum was measured by an automated system (CAP Pharmacia, Uppsala, Sweden). The ranges for the CAP class scoring were as follows: class 0: <0.35; class I: 0.35–0.70; class II: 0.7–3.5; class III: 3.5–17.5; class IV: 17.5–50; class V: 50–100; class VI: >100 kU/l. Samples in class III or higher were considered strongly positive. All positive samples were reassayed for consistency of results.

We evaluated 1025 subjects, 84% male and 16% female, with a mean age of 39.1 years (range: 19–65). Latex-specific IgE were found in 36 out of 1025 (3.5%) subjects; six out of these 36 had strong positivities; and 17 subjects were classified in class I and 13 in class II. The prevalence of latex-specific IgE was significantly higher in women (31 out of 156) than in men (five out of 869): chi square, $P=0.001$. The prevalence was also higher in subjects with a positive allergy history (19 out of 142 vs 17 out of 893; $P=0.001$), while no relationship with age was detectable. None of the subjects with classes I and II positivity reported a significant history of latex-induced reactions. The six subjects

with class III or higher CAP positivity underwent the skin prick test for latex (Stallergènes, France), grass, *Parietaria*, mugwort, cat, dog, *Aspergillus fumigatus*, *Alternaria*, birch, hazelnut, alder, *Olea*, *Dermatophagoides pteronyssinus*, and *D. farinae* (Bayer DHS, Italy). Only one out of these six subjects reported contact urticaria using latex gloves for gardening (Table 1), but the remaining patients had skin positivity to several pollens.

The prevalence of serum IgE positivity to latex was overall low (3.5%), compared to that reported by other authors (4). Moreover, strong positivity was very rare (0.6%) and of clinical relevance in only one subject (0.09% of the population). It can be hypothesized that the observed latex-IgE positivities in five cases were due to cross-reactivity with grass allergens, as recently demonstrated (5). Finally, this study could provide a relatively realistic estimation of the prevalence of latex sensitization in the general population, since it was assessed in a large unselected sample by an objective method.

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Angioedema due to losartan

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Key words: angioedema; losartan; transient ischemic attack.

● ANGIOEDEMA is a rare adverse drug reaction to angiotensin II receptor antagonists. We report on a patient with angioedema of the face and generalized urticaria associated with a transient ischemic attack with unilateral neural and motor

deficiencies.

A unique case of angioedema associated with transient ischemic attack due to an angiotensin II receptor antagonist.

For 4 months, a 49-year-old woman had been on antihypertensive medication with the angiotensin II receptor antagonist losartan (Lorzaar[®], Merck) 50 mg/day. Furthermore, she had taken simvastatin (Zocor[®], Merck) 10 mg/day because of hyperlipoproteinemia for 4 months. There were no previous episodes of angioedema, urticaria, or transient ischemic attacks. Cerebral magnetic resonance imaging showed no signs of cerebral bleeding or infarction.

From complete health, she developed angioedema of the face and generalized urticaria. In addition, she showed typical signs of hemisyndrome with unilateral neural and motor deficiencies on the right side of the face as well as on the right arm and leg.

After discontinuing medication with

Table 1. Clinical features of subjects with CAP positivity of >2

Patient no.	Age (years)	Sex	Prick latex	Symptoms due to latex	Previous surgery	Other sensitization
1	35	M	Positive	No	Yes	Grass, <i>Parietaria</i>
2	42	M	Positive	No	No	Grass, mugwort
3	27	F	Positive	No	No	Grass
4	36	M	Positive	No	No	Grass, mugwort
5	38	F	Positive	No	Yes	Grass, birch
6	63	M	Positive	Yes	No	None

losartan and treatment with oral prednisolone 50 mg/day, the angioedema cleared within 3 days. The symptoms of the transient ischemic attack cleared within 1 day, leaving only a residual minimal mimic paresis of the facial nerve (slight hanging of the right mouth angle) for about a week. As antihypertensive treatment, a calcium antagonist was given instead of losartan. No relapse of the angioedema had occurred within 4 months of follow-up. Because of the risk, no attempt of re-exposure to losartan was made.

There was no hint of an atopic disposition. No nonsteroidal antiphlogistic drugs had been taken. C1-esterase inhibitor (amount and function), C3, and C4 were normal. As no other cause could be identified, losartan was probably the cause of the angioedema.

Angioedema has been found to be due both to conventional angiotensin-converting enzyme inhibitors (1) and, in some cases, to angiotensin II receptor antagonists (2, 3). Recently, increased plasma bradykinin concentrations have been measured during episodes of angioedema caused by an angiotensin-converting enzyme inhibitor, supporting the hypothesis that the well-known interference with the bradykinin system is part of the underlying pathogenetic mechanism in these adverse drug reactions (4). However, angiotensin II receptor antagonists do not interfere with the kallikrein-kinin system (5); therefore, these findings cannot be applied to losartan. Until now, the pathogenetic mechanism of angioedema due to losartan has remained unclear.

Cerebral manifestations and transient ischemic attacks have been reported in association with angioedema of unknown cause (6) or angioedema caused by C1-esterase inhibitor deficiency (7). To our knowledge, this case is the first described case of angioedema due to an angiotensin II receptor antagonist associated with a transient ischemic attack.

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Allergic contact dermatitis to propylene glycol

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Key words: allergic contact dermatitis; electrode gel; irritation; patch tests; propylene glycol; ultrasonic gel.

● PROPYLENE glycol (PG) (propane-1,2-diol) is widely used in pharmaceutical manufacturing as a solvent and vehicle, especially for drugs unstable or insoluble in water. It may also be employed as a preservative, and is extensively used in foods and cosmetics (1). PG may cause contact dermatitis and local irritation of the skin and mucous membranes. We report a case of allergic contact dermatitis due to PG included in contact gels.

A 66-year-old man was referred to our department because of an eczematous eruption at the sites where a gel used for echocardiography had been applied (Geleco[®], Lab. Carreras, Barcelona, Spain). The eruption

appeared 3-4 h after application, peaked after 48 h, and resolved in a period of 7-9 days without treatment. The patient had suffered similar reactions previously (4-5 times) related to the application of gels for ECG, abdominal echography, or cardioversion. He had a history of atopic eczema as a child and occasional eczema related to cosmetics and adhesive tape.

The patient was patch tested with the European standard series, the gel (as is), and its preservatives 2 months after the last reaction.

According to the information provided by the manufacturer, the concentration of PG in the gel was 20%, so we tested with serial dilutions in water from 2% to 20%. Patch tests were performed on the back with Leukotest[®] (Beiersdorf AG, Hamburg, Germany) covered by Mefix[®] (Mölnlycke AB, Sweden). Readings

Contact dermatitis to propylene glycol in contact gels confirmed by a combination of test methods.

Table 1. Patch test results

		48 h	96 h
Standard series			
Wool alcohols		+++	+++
Fragrance mix		+++	+++
Colophony		+	++
Balsam of Peru		++	++
Black rubber		+++	+++
mix			
Geleco [®] (as is)		+++	+++
Preservatives of Geleco			
Nypagin A ^{®1}	3% pet	-	-
Nypasol M ^{®2}	3% pet	-	-
Propylene glycol	2% aq.	+++	+++
	5% aq.	+++	+++
	10% aq.	+++	+++
	20% aq.	+++	+++

¹ethyl-p-hydroxybenzoate. Concentration and vehicle recommended by ICDRG.

²propyl-p-hydroxybenzoate. Concentration and vehicle recommended by ICDRG.