

A clinical and serological follow-up study of health care workers allergic to natural rubber latex who had followed a latex avoidance programme

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Key words: avoidance programme; health care worker; latex-specific immunoglobulin E; occupational latex allergy.

The appropriate treatment for allergy remains the total eviction of the allergen, whatever it may be. In the case of latex allergens in hospitals, total avoidance of such a component seems to be utopia. However, the avoidance of inhaled allergens by the exclusion of powdered latex gloves is a validated alternative (1–3).

This study involved 33 health care workers allergic to latex who were followed up at the allergy unit of the University Hospital of Montpellier during a median of 21 months (10–30) (25–75 percentiles). The diagnosis of latex allergy was set on the basis of a suggestive clinical history together with a positive skin prick test with the nonammoniated standardized extract from Stallergènes (Saint Denis, France). Seventeen of the health care workers were nurses (51.5%), five auxiliaries (15.1%), three housekeepers (9%), two physicians (6%), two laboratory workers (6%), two operating room nurses (6%), one physiotherapist (3%) and a stretcher-bearer (3%). The median age was 30 years (25–40) and the median time delay from latex allergy diagnosis to entry

to the study was 0 months (0–54). The clinical manifestations of allergy in the workplace were urticaria (66.7%), rhinitis (54.5%), asthma (36.4%), conjunctivitis (21%) and angioedema (18%). Twenty-one subjects were polysensitized, only three were monosensitized to latex. Only three of 33 had bronchial obstruction (i.e. $FEV_1 < 80\%$ of the predictive value). Latex-specific IgE levels were elevated in 32 of 33 subjects, with a median value of 4.1 kU/l (2.1–10.1; K82, Pharmacia Diagnostics, St-Quentin-en-Yvelin, France). All subjects underwent a questionnaire regarding their allergic symptoms, skin prick tests to the common aeroallergens of the Montpellier area, fresh and standardized extracts (Stallergènes) of the most common cross-reacting fruits. The follow-up consisted of a consultation at 3, 6 and 12 months and then every

6 months thereafter. It was based on a clinical and latex-specific IgE evaluation.

On the professional side, 11 subjects changed their workplace. Complete avoidance of powdered latex gloves was effective in all of the units where the subjects were working and the allergic health care workers received latex-free gloves for their own job. The complete biological follow-up was possible for 24 of 33 subjects followed up during a median of 21 months (13–28). It showed a dramatic decrease of latex-specific IgE throughout the period. This evolution was statistically significant ($P < 0.001$) with a median value at entry of 5.6 kU/l (2.5–12.0), 2.7 kU/l (0.8–5.6) after 9 months and 2.1 kU/l (0.4–4.0) after 19 months (Fig. 1). The nine subjects for whom we did not have at least three latex-specific IgE measurements over the

Avoidance of powdered latex gloves reduces both clinical symptoms and latex-specific IgE levels.

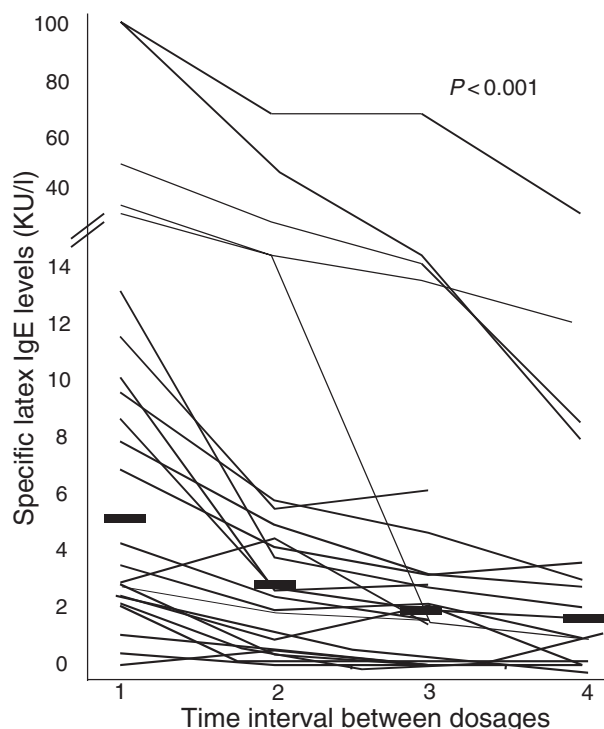


Figure 1. Specific latex IgE levels (kU/l) evolution in 24 health care workers from entry to the latex prevention programme (1), 9 months later (2), 19 months later (3), to the end of the follow-up (4) [median of 21 months (13–28)]. Black rectangles represents the medians.

follow-up period did not differ significantly from the 24 others, in terms of clinical symptoms, spirometry values and first specific IgE measurement.

In this survey we demonstrated that simple latex prevention measures in the workplace such as the replacement of powdered latex gloves by nonpowdered latex gloves for all health care workers and latex-free gloves for latex allergic health care workers lead to symptom relief and a dramatic decrease of latex-specific IgE. This is in accordance with a recent study about latex sensitization in a population of dental school students (4). These clinical and biological results encourage us to pursue the follow-up of those subjects and the avoidance of powdered latex gloves in all the units of our 3000-bed university hospital. Such an attitude is now widely recommended (5).

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A latex-containing hepatitis-B vaccine administered in a severely latex allergic paediatric patient after specific sublingual immunotherapy: a case report

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Key words: hypersensitivity; latex; sublingual immunotherapy; vaccination.

Latex allergy, besides being a professional disease, can also affect paediatric patients who repeatedly undergo surgery. Here, we report the case of a 14-year-old boy with a congenital malformation of the urinary tract, who had become latex-sensitized following catheterization and surgery at the end of the age of 1 year.

The child suffered several severe systemic reactions to latex requiring steroid therapy. Oral allergic symptoms to kiwi, banana and pineapple appeared at the age of 10 years. At

the age of 14 years he required hepatitis B vaccination with latex-free syringes. However, the vaccine (Engerix-BTM; Glaxo SKB, Rixensart, Belgium) was supplied in rubber-capped vials. Engerix-BTM was tested undiluted by prick test and by intradermal injection as a 1/100 and 1/10 dilution in saline and scored positive in all cases. Engerix-BTM administration was therefore postponed. One month later, he was started on sublingual latex immunotherapy (ALK-Abellò SpA, Milan, Italy). This implied an induction phase, which was administered in the hospital under specialist supervision, and a maintenance phase, which was self-administered at home (details in Table 1). After 2 months of immunotherapy there had been no adverse effects, the skin test with

Sublingual immunotherapy with latex may allow performance of non-latex-free vaccinations in severely latex allergic children.

Table 1. Treatment schedule

Day	Vial	Dose (drops)	Protein concentration	Between-dose interval
Induction phase				
1	0	1	5×10^{-8} µg/ml	15 min
		10		
	1	1	5×10^{-5} µg/ml	15 min
		10		
2	2	1	5×10^{-2} µg/ml	15 min
		10		
	3	1		15 min
		10		
3	4	1	500 µg/ml	15 min
		2		15 min
		3		15 min
		4		15 min
		10		
4		25		
Maintenance phase*				
		25		2 days

* Amount per dose: 500 µg.