

Clinical Assessment of Latex Allergy among Hospital Health Care Providers

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Key Words

Latex · Adverse reactions · Hospital personnel

Among 196 hospital health care providers presenting for evaluation of possible latex allergy, a previous history of allergic rhinitis was noted in 46%, asthma in 15%, and eczema, conjunctivitis, or food allergy in 6%, respectively. The most common symptom attributed to latex exposure was rhinitis (39%), followed by asthma (33%), dermatitis (28%), systemic urticaria (20%), contact urticaria (15%), conjunctivitis (13%), angioedema (4%), and anaphylaxis (4%). Among this cohort of health care providers evaluated at Brigham and Women's Hospital, 54% had two symptoms and 15% had three or more latex-related symptoms. Rhinitis (68%), asthma (53%), urticaria/angioedema (53%), dermatitis (42%), and conjunctivitis (21%) were noted in those hospital health care providers having multiple latex-associated symptoms. While an assessment of allergen-specific IgE among latex-exposed hospital health care providers using the Pharmacia CAP was positive in 7.2% of those tested, among latex-symptomatic hospital health care providers, 37% were positive. Whole blood leukocyte histamine release test (LHRT) to latex allergen was positive in 43% of latex-exposed hospital health care providers, and in 61% of latex-symptomatic health care providers. The total IgE was highest in CAP-positive hospital health care providers (131 IU/ml) while the LHRT latex-positive providers did not differ from the overall average hospital worker (32 vs. 28 IU/ml total IgE level). Among hospital

Table 1. Food allergy assessment

	Hospital health care providers %
CAP (+) latex-specific IgE	
Banana alone (+)	0
Avocado alone (+)	50
Banana and avocado (+)	12.5
Hycor (+) latex-specific IgE	
Banana alone (+)	0
Avocado alone (+)	41
Banana and avocado (+)	25

health care providers, respiratory symptoms are very common consequent to latex allergy.

Fifty-two hospital health care providers were further evaluated for concomitant avocado and banana allergy in addition to latex sensitivity. When tested utilizing the Pharmacia CAP, 62.5% of latex-sensitive hospital health care providers were found to be reactive to either avocado or bananas. In this study, 50% of the latex-sensitive hospital health care providers reacted to avocado alone; 12.5% reacted to both banana and avocado (table 1). The geometric mean total IgE in the cohort of hospital health care providers with banana and/or avocado allergy was 77 IU/ml (table 2). The new onset of latex allergy was demonstrated to parallel the onset of food allergy. Among latex-sensitive hospital health care providers, 1 individual developed ba-

Table 2. Geometric mean total IgE in hospital health care providers reactive to both latex and food allergens

Cohort	Total IgE, IU/ml
Hycor (+)	221
CAP (+)	77

nana-associated exercise-induced anaphylaxis consequent to becoming latex-sensitized. Latex-sensitive hospital health care providers should be advised of the risk of developing food-related allergic symptoms.

Testing of health care providers utilizing whole blood LHRT demonstrated differential reactivity to latex allergens from five different sources: Bencard, Stallergene, ALK, Reference Laboratory, and Greer. Individual differences occurred among hospital health care providers with regard to reaction to specific allergens within each of these latex extracts. The LHRT allows for screening of latex allergy using a variety of allergen sources – a potential advantage over RAST testing, wherein there is less allergen heterogeneity in the assay.

The overall rate of sensitization of hospital health care providers by airborne latex (powdered gloves) may be underestimated if only in vitro IgE assays for latex-specific IgE are utilized.

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