

February 2003, part 2 • Volume 111 • Number 2

424 Latex-Specific IgE Assay Sensitivity Enhanced Using Hev b 5 Enriched Latex Allergosorbent*R. G. Hamilton¹**C. E. Rossi¹**H. Y. Yeang²**D. I. Bernstein³**R. Biagini⁴*¹*Johns Hopkins University School of Medicine,
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RATIONALE: All clinically-available FDA-cleared serological assays for latex-specific IgE display less than ideal diagnostic sensitivity as a result of allergenic epitopes from multiple Hevb allergens that are either missing or denatured during the allergosorbent manufacturing process (JACI 2002;109: S259, abstract 790). We have studied the extent of performance enhancement in IgE anti-latex detection using a recombinant Hevb5-enriched allergosorbent.

METHODS: Serum from 68 latex allergic (clinical history [Hx] positive, Greer investigational skin test [G-ST] positive) and 48 non-latex allergic (Hx negative, G-ST negative) were analyzed in the Pharmacia CAP System using the standard latex (K82) and Hevb5-enriched latex (K85-S) allergosorbents.

RESULTS: Based on this cohort of subjects, the diagnostic sensitivity of the CAP System increased significantly ($p < 0.001$) from 51.5% to 61.8% with the use of recombinant Hevb5 supplemented latex on the allergosorbent. Diagnostic specificity remained essentially unchanged [93.8% (K82) vs 91.7% (K82-S)]. There was also a >2-fold increase in quantitative kIU/L levels of IgE antibody detected in sera from 37% of the Hx/G-ST positive subjects, with one third of these representing a seroconversion from negative-(K82) to positive-(K82-S).

CONCLUSIONS: The enrichment of the latex CAP allergosorbent with recombinant Hevb5 results in modest improvements in diagnostic sensitivity and qualitative latex-specific IgE antibody detection, with no appreciable loss in diagnostic specificity. Even so, the Pharmacia CAP System still fails to detect latex-specific IgE antibody in up to 38% of latex Hx and G-ST positive subjects. Supplementation of native latex allergens with other recombinant allergens should be a future manufacturing goal.

Funding: NIH