

Latex allergy correlates with operation

IN HEALTH-CARE workers, as well as in patients with spina bifida (SB), there is evidence of a relationship between the degree of exposure (allergen content of gloves, exposure duration) and the IgE-mediated sensitization.

Recently, we studied the prevalence of seropositive IgE antibodies to latex and Hev b 1 (rubber elongation factor) (1, 2) in 140 SB patients who had undergone from none to more than 10 operations, by using the CAP System (Pharmacia) for latex and EAST with highly purified Hev b 1 as target antigen.

Our results, as shown in Fig. 1, demonstrated that the prevalence of positive serum samples in SB patients is significantly associated with the number of operations. Only one of the 11 subjects without ($n=2$) or with one surgical intervention had IgE

antibodies to latex. However, we found that about 36% of samples from patients with two to four operations had positive IgE values to latex, and 28% also had IgE antibodies to Hev b 1. In the patient group with number of operations between five

Sensitization to latex and its major allergen Hev b 1 is associated with the number of operations in spina bifida children.

and seven, the prevalences of IgE antibodies to latex and Hev b 1 had grown to 50% and 40%, respectively. Compared with patients who had no or only one operation, the patients with five to seven operations had at least a 10 times higher probability of having antilatelat IgE antibodies (OR, 10; 95% CI, 1.16–86.0; $P=0.017$). The prevalence of anti-Hev b 1 IgE antibodies was also significantly associated with the number of operations: the patients with eight to nine operations were more likely to have anti-Hev b 1 IgE antibodies (77.8%) than those who had two to four (27.6%) or five to seven (39.5%) operations (OR, 9.1; $P=0.0002$ and OR, 5.3; $P=0.01$, respectively). Almost 80% of the SB patients with eight or more operations showed the presence of anti-latex IgE antibodies; without exception, all these patients were also sensitized to Hev b 1. The ratio of the sensitization to both latex and Hev b 1 did not increase further in the groups with more operations.

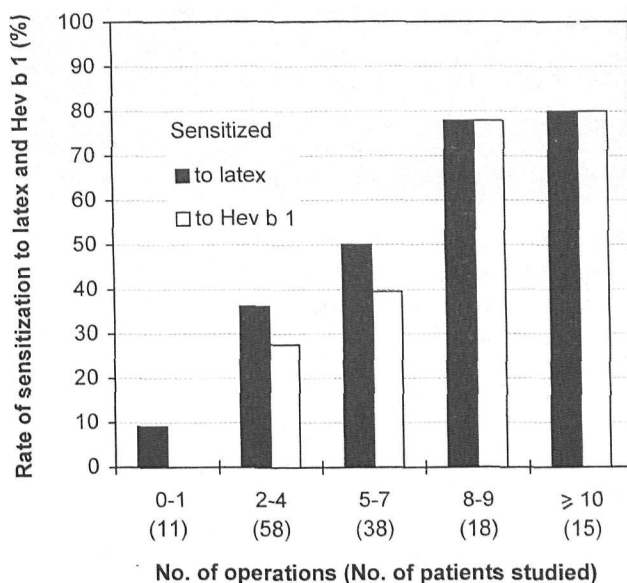


FIGURE 1 Prevalence of positive IgE antibodies to latex and Hev b 1 in spina bifida children with different numbers of operations.

We conclude that in SB children the frequency of sensitization to latex is related to the number of operations, and it rises to 50%. The major allergen in this patient group is Hev b 1, and about 80% of patients with latex allergy exhibit seropositive anti-Hev b 1 IgE antibodies. In three cases, the IgE measurements with Hev b 1 as target antigen showed a positive result, but they were negative with latex allergen in the CAP System, indicating that sometimes the IgE measurement with Hev b 1 is more sensitive than that with latex extract.

The result suggests an intensive primary prevention in this patient group; thus, all clinical examinations and operations have to be performed with gloves and equipment not containing latex allergens.

Key words: Hev b 1; IgE; latex allergy; spina bifida.

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