

Effect of mattress and pillow encasings on children with asthma and house dust mite allergy

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Background: House dust mite (HDM) allergy is a frequent cause of allergic asthma in children. Reduction of exposure seems to be the most logical way to treat these patients.

Objective: Our aim was to investigate whether mattress and pillow encasings resulted in an effective long-term control of HDM allergen levels, thereby reducing the need for asthma medication in children with asthma and HDM allergy.

Methods: In a prospective, double-blind, placebo-controlled study 60 children (age range, 6-15 years) with asthma and HDM allergy were randomized to active (**Allergy Control**) or placebo mattress and pillow encasings. After a 2-week baseline period, follow-up was performed every 3 months for 1 year. During the entire study period, the dose of inhaled steroids was tapered off to the lowest effective dose according to well defined criteria.

Results: Fifty-two patients completed the trial, and 5 were excluded, leaving data from 47 children (26 in the active treatment group and 21 in the placebo group) for analysis. A significant perennial reduction in HDM allergen concentrations was seen only for the active treatment group. Also, a significant decrease in the dose of inhaled steroids (mean, 408 to 227 μ g/d; $P < .001$) was found for the active treatment group only, with significant differences between groups after 9 and 12 months. After 1 year, the dose of inhaled steroids was reduced by at least 50% in significantly more children in the active treatment group than in the placebo group (73% vs 24%, $P < .01$).

Conclusion: Encasing of mattresses and pillows resulted in a significant long-term reduction in HDM allergen concentrations in mattresses and in the need for inhaled steroids in children with asthma and HDM allergy. (**J Allergy Clin Immunol 2003;111:169-76.**)

Key words: *Mattress encasing, house dust mite allergy, childhood asthma, inhaled steroids*

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