#7 Abstract

Oral immunotherapy in young children with peanut allergy: sustained unresponsiveness after 1 year of treatment.

Allergen immunotherapy / Immunotherapy: clinical / vaccines

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Background
Low-dose oral immunotherapy (OIT) is a food allergy treatment that has shown an immunomodulatory effect in young peanut allergic children, associated with the development of long term tolerance. In previous studies, the duration of OIT acquired to achieve tolerance was based on the decrease of peanut-specific IgE. To date, no studies were performed using a fixed-duration OIT treatment. Accordingly, a study was performed to investigate the effectiveness of low-dose OIT for a period of 1 year to achieve sustained unresponsiveness in young children with a peanut allergy.

Method
As part of a study in which young children with different food allergies received OIT, children aged 9–24 months with a proven allergy to peanut, based on sensitization and a positive oral food challenge, were eligible for inclusion. Participants received a maintenance dose of 300 mg/day peanut protein during one year after a build-up phase. Sustained unresponsiveness was assessed by an oral food challenge test at four weeks after stopping OIT.

Results
Until now, 10 children with a median age of 20 months (range 13 to 24 months) at enrolment finished the 1 year study treatment. All children had a history of eczema and 4 children had a multiple food allergy. Median peanut-specific IgE at inclusion was 7.5 kU/l (IQR 4.6-21.5 kU/l). The median baseline threshold level determined by a clinical oral food challenge was 850 mg (range 100-1500 mg) peanut protein. Eight children achieved sustained unresponsiveness, consuming 4.4 gram peanut protein without allergic reaction four weeks after stopping the 1-yr OIT and continued dietary peanut consumption at home. Peanut-specific IgE levels declined in all patients to a median level of 2.7 kU/l (IQR 2 to 4.4 kU/l, p=0.009). The two patients with persistent allergy were characterized by high levels of peanut-specific IgE at the start of the therapy (33 and 24 kU/l), low threshold levels (100 and 300 mg) and an anaphylactic reaction with bronchoconstriction during the baseline oral food challenge in one of the patients

Conclusion
One year of low-dose OIT is sufficient to achieve sustained unresponsiveness in most young children with a peanut allergy. Children with a severe peanut allergy may need extended OIT to achieve this goal.