Effect of Oral Immunotherapy to Peanut on Food-Specific Quality of Life


PURPOSE OF THE STUDY. The purpose of this study was to evaluate the effect of peanut oral immunotherapy on food-specific quality of life.

STUDY POPULATION. The study enrolled 100 children, 5 to 18 years of age, with suspected or known peanut allergy based on history, elevated specific immunoglobulin E to peanut, and skin testing. If a subject did not meet inclusion criteria (eg, skin-prick wheal ≤7 mm, no anaphylaxis, reaction more than 1 year ago, or peanut immunoglobulin E <15), a single blind food challenge was performed to confirm allergy before enrollment.

METHODS. A desensitization protocol was performed starting with 0.1 mg of peanut protein and doubling in the amount given every 30 minutes to a maximum of 6 mg on day 1 (maximum cumulative dose of 12 mg). On day 2, subjects returned and were given the maximum tolerated dose from the previous day. If tolerated, subjects were discharged with instructions to continue this daily dosing at home. Subjects returned every 2 weeks for increases in daily dosing to a maximum of 450 mg per day. Food allergy quality of life questionnaires were given to the parents of the youngest subjects, as well as subjects 8 to 12 years old, and adolescents 13 to 18 years old on entry to the study, and again when maintenance dosing was achieved.

RESULTS. A total of 90 subjects reached a maintenance dose of 450 mg peanut protein per day (equal to 3 peanut M&Ms) and completed pre- and postdesensitization quality of life questionnaires. Excluded were 3 subjects still advancing to maintenance at the time of publication, and 7 who dropped out during the buildup phase (4 of them had gastrointestinal symptoms). There was significant improvement in the following areas of the quality of life by questionnaire: allergen avoidance, dietary restriction, risk of accidental exposure, food-related anxiety, and social and dietary limitations. Emotional impact was not noted to have a significant difference in the adolescents’ survey, but was significant in the other age groups. Furthermore, quality of life was significantly improved for the youngest group (with parents filling out the questionnaire), as well as for the early teen (8–12) and adolescent groups filling out their own questionnaires.

CONCLUSIONS. The results of this study showed that there is an improvement in the quality of life in children and adolescents with peanut allergy after desensitization.

Frequent Baked Egg Ingestion Was Not Associated With Change in Rate of Decline in Egg Skin-Prick Test in Children With Challenge-Confirmed Egg Allergy


PURPOSE OF THE STUDY. To determine if the natural history of egg allergy would be altered by the frequent ingestion of baked egg in food challenge–confirmed egg-allergic children.

STUDY POPULATION. A retrospective clinical cohort study of 125 children from the Department of Allergy and Immunology, Royal Children’s Hospital, Victoria, Australia, was completed. Participants from 1996 to 2005 with challenge-proven egg allergy were included, providing they had at least 2 egg skin-prick tests performed within this period.

METHODS. A telephone questionnaire was conducted to assess the frequency of baked egg ingestion as follows: (1) frequent (more than once per week), (2) regular (more than once every 3 months, up to once per week or less), or (3) strict avoidance (once every 3 months or less). A multiple linear regression analysis, adjusting for possible confounders, was used to examine the relationship between frequency of baked egg ingestion and the rate of decline in egg skin-prick test size.

RESULTS. The mean rate of decline in egg skin-prick test size in all children was 0.7 mm per year (95% confidence interval [CI] 0.5–1.0 mm per year). The frequency of baked egg ingestion did not affect the rate of decline in egg skin-prick test size (P = .57). Individual results for each group were as follows: frequent ingestion (n = 21, mean 0.4 mm per year, 95% CI 0.3–1.2 mm per year), regular ingestion (n = 37, mean 0.9 mm per year, 95% CI 0.4–1.4 mm per year), and strict avoidance (n = 67, mean 0.7 mm per year, 95% CI 0.4–1.1 mm per year).

CONCLUSIONS. Frequent baked egg ingestion was not associated with a different rate of decline in egg skin-prick test compared with strict avoidance in egg-allergic children.
REVIEWER COMMENTS. This study is different from previous studies from the Mount Sinai, New York, group (J Allergy Clin Immunol. 2008;122:977–983; J Allergy Clin Immunol. 2012;130(2):473–480) who have shown that regular ingestion of heated egg (defined as 1–3 servings per day) was associated with decreased skin-prick test wheal diameters to egg white and decreasing egg white, ovalbumin, and ovomucoid-specific immunoglobulin E antibody levels. This study does not specify the frequency of baked egg ingestion in the more than once a week group. It appears that this dosing interval may be critical to make the most impact immunologically. Clearly, ingestion once every 3 months or strict avoidance of egg does not appear to accelerate the development of egg tolerance.

CONCLUSIONS. Compared with other commonly used formulas, EHCF + LGG is effective in promoting cow’s milk protein tolerance in IgE-mediated and non–IgE-mediated CMA infants. Of note, EHCF alone also led to significantly higher rates of cow’s milk tolerance only when compared with soy and amino acid–based formula but not with EHCF + LGG or hydrolyzed rice formulas.

REVIEWER COMMENTS. Extensively hydrolyzed formulas are recommended for CMA infants due to their safety profile and clinical efficacy. Muraro et al (BMJ Open. 2012;2[2]:e000637) demonstrated the additional benefits of EHCF + LGG, including decreased atopic dermatitis, diminished intestinal inflammation, and improved recovery of allergic colitis. This study reinforces these findings by demonstrating EHCF’s ability, predominantly with LGG, in promoting tolerance to cow’s milk protein in infants with CMA. Future studies are required to address long-term outcomes of these formulas, with respect to both safety and tolerance, in IgE-mediated and non–IgE-mediated CMA.


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Formula Selection for Management of Children With Cow Milk Allergy Influences the Rate of Acquisition of Tolerance: A Prospective Multicenter Study

PURPOSE OF THE STUDY. To examine whether formula selection in children with cow’s milk allergy (CMA) will affect development of tolerance to cow’s milk protein.

STUDY POPULATION. A total of 260 CMA infants, ages 1 to 12 months. CMA was confirmed at the initial visit through clinical evaluation, skin prick testing (SPT) (immunoglobulin E [IgE]-mediated CMA), atopy patch testing (APT) (non–IgE-mediated CMA), and double-blind, placebo-controlled oral food challenges (DBPCFC).

METHODS. This open-label, nonrandomized study evaluated the acquisition of tolerance in infants with CMA fed 5 different formulas: extensively hydrolyzed casein formula (EHCF) (group 1), extensively hydrolyzed casein formula plus the probiotic Lactobacillus rhamnosus GG (EHCF + LGG) (group 2), hydrolyzed rice formula (group 3), soy formula (group 4), and amino acid–based formula (group 5). Development of tolerance was assessed after a 12-month period with repeat SPT, APT, and DBPCFC.

RESULTS. At the 12-month follow up, a significant difference in SPT wheal diameter was seen in only group 2 (EHCF + LGG) infants with IgE-mediated CMA. Of the non–IgE-mediated CMA infants, only group 1 (EHCF) and group 2 (EHCF + LGG) exhibited a significant decline in positive APT results. Based on DBPCFC, group 1 (EHCF) and group 2 (EHCF + LGG) also demonstrated higher rates of cow’s milk tolerance at 12 months compared with the other groups; group 2 (EHCF + LGG) had the greatest influence. Binary logistic regression analysis revealed that the rate of attaining tolerance was influenced by an IgE-mediated mechanism and the choice of formula.

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A Brief Intervention to Improve Food Allergy Knowledge Among US Pediatricians: Lessons Learned

PURPOSE OF THE STUDY. To determine if a brief educational tool developed for pediatricians would be effective in addressing gaps in food allergy knowledge.

STUDY POPULATION. US pediatricians (N = 61), including practicing pediatricians recruited from 4 Chicago-area practices, graduates from the Children’s Memorial Hospital residency program, and current members of the Illinois chapter of the American Academy of Pediatrics.

METHODS. A Food Allergy Comprehension Tool (FACT) was developed by pediatricians, pediatric allergists, and health services researchers with support of an expert panel of leaders in the field. This educational tool focused on addressing common food allergy misconceptions among primary care physicians. Pre- and postassessments were administered to pediatricians who completed
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