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.

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.
a Web-based version of FACT between February and March 2010. Statistical analyses were performed to evaluate pediatrician knowledge of food allergy diagnosis, symptoms, triggers, susceptibility, and treatment. The level of comfort in caring for food-allergic children was also assessed.

RESULTS. Sixty-one percent of surveyed pediatricians answered more knowledge questions correctly after reviewing the tool. Time in clinical practice was well distributed, from 1 to 47 years. Sixty-four percent of physicians had been in practice for >10 years. Twenty-three percent had participated in allergy training during residency, but none had fellowship training in allergy. Significant improvements in knowledge were observed regardless of how long a provider had been in practice, but these improvements were higher among those without formal training in food allergy. Comfort in caring for food-allergic children increased significantly on all items postintervention (P < .05).

CONCLUSIONS. This study demonstrated that FACT is a rapid and effective way to address known knowledge gaps among pediatricians and could be used to identify areas in need of further intervention.

REVIEWER COMMENTS. This study is encouraging because it demonstrates that development of such educational tools for pediatricians can be an effective way to improve knowledge gaps. Such interventions are essential to improve the management of childhood food allergy in the United States.

Food Allergy–Related Quality of Life After Double-Blind, Placebo-Controlled Food Challenges in Adults, Adolescents, and Children


PURPOSE OF THE STUDY. To investigate the self-reported impact of a double-blind, placebo-controlled food challenge (DBPCFC) on the health-related quality of life (HRQL) of children, adolescents, and adults with food allergy.

STUDY POPULATION. Children 8 to 12 years old (n = 77), adolescents 13 to 18 years old (n = 71), and adults (n = 73) with clinical suspicion of food allergy who were awaiting DBPCFC. Because there was a long wait time for DBPCFCs, the designated experimental group was expected to have a wait of <6 months and the control group was expected to have a >6-month wait.

METHODS. Age group–specific, validated, reliable, and discriminative food allergy quality of life (QoL) questionnaires were used. The self-reported forms were completed before and 6 months after DBPCFC in the experimental group and twice by the control group with a 6- to 7-month interval.

RESULTS. For children and adults, the greatest improvement in HRQL score came after a negative DBPCFC when there were no other remaining food allergies. There was a smaller but still significant improvement in HRQL after a positive challenge. There was no significant change after a questionable challenge outcome. HRQL scores did not change in the age-matched control groups. For adolescents, HRQL improved only after a negative DBPCFC.

CONCLUSIONS. Greater improvements were seen in food-specific QoL after a negative food challenge than after a positive challenge.

REVIEWER COMMENTS. It comes as no surprise that a negative food challenge improves food-specific quality of life. Of interest, even a positive challenge improved QoL in children and adults. It is possible that their recognition of what would happen in the event of an unintentional ingestion removed the uncertainty with which they had lived on a daily basis. The same was not seen in teenagers with a positive challenge, suggesting that their QoL concerns lay more with the fact that they have food allergy than what would happen with ingestion. An important point about this article is that food allergy affects QoL. As common as food allergy is, it is clear that many patients are diagnosed solely on the basis of a positive skin- or serum-specific immunoglobulin E level. The distinction between sensitization and allergy is paramount. Patients with an uncertain history or positive test result in the absence of a positive history should be considered for food challenge in a controlled setting by those experienced with the procedure.
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