

Is There a Consensus in Food Allergy Management?

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ABSTRACT

Approaches to the management of cow's milk allergy (CMA) include eliminating dairy products from the diet and delaying the introduction of solids until 6 months of age. In addition, because children on strict elimination diets often exhibit nutritional deficiencies that may lead to poor growth, some studies suggest that replacement rather than elimination diets may be more appropriate. Studies of amino acid–based formulas in children with CMA have shown them to be safe and as effective as extensively hydrolysed formulas (eHF) at relieving allergic symptoms. Certain subgroups, such as children with severe

atopic eczema or exclusively breast-fed children exhibiting allergic symptoms, may develop intolerance to eHF, and evidence suggests that the use of amino acid–based formulas in these populations relieves symptoms and encourages growth. Further studies are required to fully elucidate the benefits of amino acid–based formulas in children with CMA intolerant to eHF. *JPGN* 47:S58–S59, 2008. © 2008 by European Society for Pediatric Gastroenterology, Hepatology, and Nutrition and North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition

ESPGHAN RECOMMENDATIONS

A number of recommendations have been made by the European Society for Paediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN)'s committee on nutrition regarding infant formulae. Among them are some related to the use of therapeutic formulae based on protein that has been extensively hydrolysed (or amino acid preparations if hydrolysates are not tolerated) for infants with cow's milk allergy (CMA). Such recommendations also indicate that those formulae should be preferred to soy protein formulae for the treatment of CMA (1).

Furthermore, it has been advised that soy protein formula should not be used in infants with food allergy during the first 6 months of life. If soy protein formulae are considered for therapeutic use after the age of 6 months because of their lower cost and better acceptance, then tolerance to soy protein should first be established by a clinical challenge.

In addition, the ESPGHAN committee on nutrition states that soy protein formulae have no role in the prevention of allergic diseases. Moreover, they add that there is no evidence supporting the use of soy protein formulae for the prevention or management of infantile colic, regurgitation, or prolonged crying.

LIMITATIONS OF MILK-RESTRICTED DIETS

A number of approaches are recommended in the management of CMA, including elimination of dairy

products (2), delaying the introduction of solids until 6 months of age (3), and replacement rather than elimination diets, given that a strict elimination diet may increase the risk for nutritional deficiencies (4).

A study has shown that children with a mean age of 2 years on a cow's milk–restricted diet had a significantly lower intake of energy, fat, protein, calcium, riboflavin, and niacin than that which is recommended (5). The nutritional impact of therapeutic elimination diets and the risk factors predisposing infants with food allergy to poor growth have been investigated in 100 children (mean age 7 months) with atopic dermatitis and challenge-proven CMA (6). Although clinical control of atopic dermatitis had been achieved in all children, the mean length standard deviation score (Figure 1; $P < 0.0001$) and weight-for-length index were significantly decreased ($P = 0.03$) compared with healthy age-matched children. Low serum albumin was present in 6% of patients, 24% displayed abnormal urea concentration and 8% had low serum phospholipid docosahexaenoic acid. Growth delays appeared to be most pronounced in children with early versus late symptom onset ($P < 0.0001$), indicating that a delicate balance exists between the benefits and risks of elimination diets. These results demonstrate the need for a replacement diet with the appropriate infant formula rather than simple elimination of dairy products.

EFFICACY OF AMINO ACID–BASED FORMULA

A prerequisite for any eHF to be considered hypoallergenic is that $\geq 90\%$ of the infants with CMA do not

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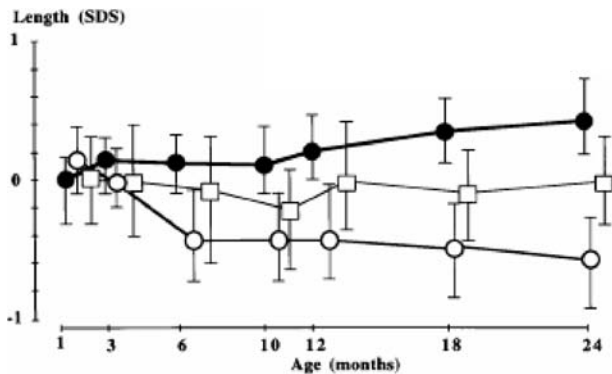


FIG. 1. Growth in the first 2 years of life in infants with cow's milk allergy before diagnosis and during an elimination diet initiated at a mean of 2.7 months in early-onset infants and 12.5 months in late-onset infants (6). Mean standard deviation score (SDS) values are shown. Intersecting vertical lines show 95% confidence interval. Black circles, healthy controls; white circles, early onset; squares, late onset. Adapted from Isolauri et al (6).

manifest any clinical symptoms in a controlled double-blind challenge (7). The efficacy of amino acid-based formulas in individuals with CMA has been evaluated in a systematic review of 20 studies: 3 head-to-head randomised controlled trials, 3 crossover challenge randomised controlled trials, 7 other clinical trials, and 7 case reports (8). In infants with confirmed or suspected CMA, use of an amino acid-based formula was shown to be safe and efficacious. Findings from randomised controlled comparisons of amino acid-based formula with extensively hydrolysed formulas (eHF) determined that both formulas are equally efficacious at relieving the symptoms of CMA in confirmed or suspected cases. However, infants in specific subgroups (eg, non-IgE-mediated food-induced gastroenterocolitis proctitis syndromes with failure to thrive, severe atopic eczema, or with symptoms during exclusive breast-feeding) were more likely to benefit from an amino acid-based formula

because intolerance to eHF may occur. In such cases, symptoms persisting despite the use of eHF usually remit following amino acid-based formula, and catch-up growth may be seen. A meta-analysis of these findings was not possible due to a lack of homogenous reporting of trial outcomes. Nevertheless, this systematic review demonstrates the clinical benefit associated with the use of amino acid-based formula with respect to both symptom improvement and growth in infants and children with CMA who fail to tolerate eHF. Further studies are required to determine the relative medical or economic value of initial treatment with amino acid-based formula in infants at high risk for intolerance of eHF.

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