

Correspondence

Infant formulas for primary allergy prevention

To the Editor:

Friedman and Zeiger¹ authored an excellent review on the merits of breast-feeding relative to allergy prevention. In it, the authors draw conclusions from the literature regarding the use of hydrolysate formulas for allergy prevention that deserve comment.

Breast-feeding remains the gold standard; however, it is not an appropriate control for assessing the efficacy of reducing allergy risk. Intact cow milk formulas are associated with increased allergy risk, not breast-feeding. Therefore, neither breast-feeding nor other hydrolysates should be used as controls in assessing formulas for primary allergy prevention. Trials like that of Halken et al² are cited, which compare hydrolysates with breast-feeding and not cow milk formula.

Regarding extensive hydrolysates (EHs), the authors state, "Numerous studies have demonstrated the effectiveness" of EHs for allergy prevention. In support, they cite the recent Cochrane meta-analysis,³ which showed a preventive effect of hydrolysates compared with cow milk formulas (relative risk, 0.63; CI, 0.47-0.85). In fact, the risk reduction cited is based exclusively on trials comparing partial hydrolysates (PHs) with cow milk formula (p. 44 and 50).³

In comparing EHs with PHs, the authors state, "Several recent European studies.... All have shown superiority of extensively hydrolyzed formula over partial hydrolysates," citing Halken et al² and von Berg et al.⁴ As mentioned, Halken et al² compared hydrolysates with breast-feeding (not the target for primary prevention), and von Berg et al⁴ found that some EHs are not effective, while Porch et al⁵ found no difference between EHs and PHs. The Cochrane meta-analysis³ concluded, "There is insufficient evidence to determine whether feeding with an extensively hydrolyzed formula has any advantage over a partially hydrolyzed formula for primary prevention." Despite pointing out that not all EH formulas have shown efficacy, Friedman and Zeiger¹ recommend, "Extensively hydrolyzed formulas should be encouraged as supplements to breast milk in high-risk infants...."

The discussion neglects a critical issue: not all hydrolysates are created equal. The protein sources and hydrolysis methods used vary significantly and can affect efficacy; therefore, it is inappropriate to group hydrolysate formulas generically into partial and extensive. Of those formulas currently available, only 2 specific products have been adequately studied and have consistently demonstrated efficacy when compared with standard cow milk formulas: an EH casein (Nutramigen; Mead Johnson Nutritionals, Evansville, Ind) and a PH whey formula

(Good Start or NAN HA or Beba HA; Nestlé, Glendale, Calif)³. My recent review⁶ authored with Robert Wood, MD, reviews the clinical trials in detail, although the formula manufacturers are not mentioned. Efficacy demonstrated in clinical trials, not degree of hydrolysis, should be the basis for recommendations.

The authors' recommendations could be misinterpreted; therefore, I propose the following recommendations:

- Health professionals should base formula recommendations for primary allergy prevention in nonexclusively breast-fed infants on demonstrated efficacy compared with standard intact cow milk protein formulas.
- The protein source, degree and method of hydrolysis, and manufacturer should be included as part of the recommendation.
- Health professionals should consider acceptability, palatability, and cost of these products when making recommendations.

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REFERENCES

1. Friedman N, Zeiger R. The role of breast-feeding in the development of allergies and asthma. *J Allergy Clin Immunol* 2005;115:1238-48.
2. Halken S, Hansen KS, Jacobsen HP, Estmann A, Faelling AE, Hansen LG, et al. Comparison of a partially hydrolyzed infant formula with two extensively hydrolyzed formulas for allergy prevention: a prospective, randomized study. *Pediatr Allergy Immunol* 2000;11:149-61.
3. Osborn DA, Sinn J. Formulas containing hydrolysed protein for prevention of allergy and food intolerance in infants (Cochrane Review). In: *The Cochrane Library*, Issue 4. Chichester, UK: John Wiley & Sons, Ltd; 2003.
4. Von Berg A, Koletzko S, Gröbl A, Filipiak-Pittroff B, Wichmann H, Bauer CP, et al. German Infant Nutritional-Intervention Study Group. The effect of hydrolyzed cow's milk formula for allergy prevention in the first year of life: the German Infant Nutritional Intervention Study, a randomized double-blind trial. *J Allergy Clin Immunol* 2003;111:533-40.
5. Porch MC, Shahane AD, Leiva LE, Elston RC, Sorensen RU. Influence of breast milk, soy or two hydrolyzed formulas on the development or allergic manifestations in infants at risk. *Nutr Res* 1998;18:1413-24.
6. Hays TL, Wood RA. A systematic review of the role of hydrolysate infant formulas in allergy prevention. *Arch Pediatr Adolesc Med* 2005;159: 810-6.

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