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IgE cross-reactivity between human and cow's milk proteins in atopic breast-fed infants

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To the Editor:

We read with great interest the article by Isolauri et al,¹ which, among the possible causes of sensitization to dietary antigens and maintenance of allergic symptoms in exclusively breast-fed sensitized infants, cites the cross-reactivity of IgE toward bovine milk proteins and homologous proteins in human milk reported in an in vitro study of ours.² We are at present performing a study aimed at assessing the possible clinical relevance of such cross-reactivity and think it may be useful to report the two cases studied to date.

We evaluated two exclusively breast-fed infants, aged 3 and 4 months, with severe atopic dermatitis. Both had direct specific IgE against cow's milk proteins (lactoferrin, serum albumin, β -casein, and α -lactalbumin) and homologous milk proteins of their mother, as detected by using the methods described previously.² After 4 weeks of topical and systemic therapy, together with strict elimination of cow's milk proteins (CMP) from the mother's diet, complete regression of the symptoms occurred. A mild worsening of eczematous lesions was observed in both infants after re-introduction of CMP into the maternal diet, and total regression was again observed 2 weeks after maternal re-elimination of CMP. Both infants responded to direct CMP challenge with a generalized erythematous rash appearing after 10 minutes, followed in one case by sneezing and laryngeal edema.

The reactivity of human and bovine milk proteins against serum IgE observed in vitro would therefore seem to be clinically relevant only against the cow's milk proteins and not against those of human milk. Consequently, this cross-reactivity in itself would not seem to constitute a cause for suspension of breast-feeding in subjects in which control of allergic symptoms cannot be achieved, in spite of maternal dietary avoidance. We therefore agree with

Goldman³ that the dietary approach to follow to handle allergic problems in the breast-fed infant is to optimize the maternal diet, while continuing breast-feeding.

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