

Dear Sir,

The two infant food formulae Pregestimil (Mead Johnson Co., Evansville, Ind., USA) and Nutramigen (Mead Johnson Co., Evansville, Ind., USA) derived from enzymatically hydrolysed bovine casein are routinely used for feeding children allergic to cow's milk proteins. Seban and colleagues (4) suggested that the gastrointestinal symptoms of chronic diarrhoea observed in allergic children given these formulae could be the result of localized immunological reaction in the gut mucosa, because both formulae contained sufficiently large peptides (> 3850 Da) to induce an allergic reaction. However, when injected into rabbits or guinea pigs only Pregestimil caused the production of precipitating antibodies.

We have extracted high molecular weight peptides (HMWP > 6000 Da) from Nutramigen by gel filtration and rechromatography on Biogel P-6. The resulting HMWP preparation, representing approximately 2% of the peptides in Nutramigen, was used to immunize inbred Balb/c Bom mice, using a modification of the method of Jarrett and colleagues (1) for high IgE production.

The pooled sera of 10 immunized mice were used in a murine Passive Cutaneous Anaphylaxis (PCA) test (3) for measuring the allergenicity of the HMWP preparation. Intravenous injection of 100 μ g HMWP in passively sensitized Balb/c mice resulted in a strong positive PCA reaction. Hence the HMWP contained molecules capable of inducing IgE production and anaphylactic reactions in mice. The HMWP in Nutramigen might function as allergens in humans as well as in mice, and our results support the suggestion of Seban's group (1). Our view and findings are in agreement with Pearsson and colleagues (2)

who showed that many cow's milk allergic children showing only gastrointestinal symptoms upon challenge with milk proteins had negative skin tests, but, nevertheless, had localized production (in the jejunal mucosa) of IgE (and IgA) with specificity against milk proteins.

This is the first demonstration of compounds present in Nutramigen which may be able to induce anaphylactic reaction in mammals. The observation emphasizes the lack of commercially available formulae which are free of potential allergens and thus suitable for cow's milk allergic children.

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