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Food allergen-specific serum IgG and IgE before and after elimination diets in allergic dogs.

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Abstract

Serum food allergen-specific antibody testing is widely offered to identify suitable ingredients for diets to diagnose adverse food reaction (AFR) in dogs with allergic skin disease. Antibody concentrations in blood samples obtained during an unsuccessful diet to help in the choice of diet changes may be influenced by the previous diet. The objective of this paper was to measure food antigen-specific IgE and IgG for the most commonly used 16 food antigens before and after an elimination diet. Levels of food-specific serum IgE and IgG antibodies were measured by enzyme-linked immunosorbent assay (ELISA). Dogs had detectable IgE antibodies to beef, pork, lamb and cows' milk; and detectable IgG antibodies to beef, pork, lamb, cows' milk, chicken and turkey. Of 19 dogs with complete data sets, 14 dogs showed clear improvement during diet and in 7 dogs AFR could be diagnosed by deterioration on rechallenge and subsequent improvement on refeeding the diet. Serum was obtained before and 6-8 weeks after beginning such a diet. There was no significant difference in pre- and post-diet levels for any of the individual allergens nor for the total IgE and IgG concentrations of all antigens ($P=0.55$ and $P=0.53$ respectively). In these 19 dogs in which an elimination diet was used for the diagnosis of food allergy and in which 14 were probably food allergic and 7 were proven food allergic there were no significant differences in food-specific antibodies before and after an elimination diet of 6-8 weeks.