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Patch testing and allergen-specific serum IgE and IgG antibodies in the diagnosis of canine adverse food reactions.

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Abstract

Adverse food reaction (AFR) is a common differential diagnosis for pruritic dogs. The only way to diagnose AFR is an elimination diet of 6-8 weeks with a protein and a carbohydrate source not previously fed. In humans, patch testing has been shown to be a useful tool to diagnose food allergies. In veterinary medicine, serum food allergen-specific antibody testing is widely offered to identify suitable ingredients for such diets. The aim of this study was to determine sensitivity, specificity, negative and positive predictability of patch testing with and serum antibody testing for a variety of common food stuffs. Twenty-five allergic dogs underwent an elimination diet and individual rechallenge with selected food stuffs, food patch testing and serum testing for food-antigen specific IgE and IgG. Eleven clinically normal control dogs only were subjected to patch and serum testing. The sensitivity and specificity of the patch test were 96.7 and 89.0% respectively, negative and positive predictability were 99.3 and 63.0%. For IgE and IgG the sensitivity was 6.7 and 26.7%, specificity were 91.4 and 88.3%, the negative predictive values 80.7 and 83.7% and the positive predictive values were 15.4 and 34.8%. Based on these results, a positive reaction of a dog on these tests is not very helpful, but a negative result indicates that this antigen is tolerated well. We conclude that patch testing (and to a lesser degree serum testing) can be helpful in choosing ingredients for an elimination diet in a dog with suspected AFR.