DERMATOLOGY PEARLS

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Drawbacks of OTC "hypoallergenic diets" and blood testing for food allergy

Some pet owners ask us why we prefer a prescription or home cooked hypoallergenic diet rather than more convenient over the counter hypoallergenic diets. Although OTC diets may be well-intentioned, higher levels of quality control in manufacturing make prescription hypoallergenic diets preferred over OTC diets as the test diet for food allergy. Many OTC "lamb and rice" diets also contain chicken and corn, and even some OTC diets claiming to be actual restricted novel proteins contain other ingredients such as eggs when the ingredient list is carefully examined. Similarly, consideration must be taken in manufacturing processes where cross contamination may occur. Packaging for all OTC products generally take place on the same machinery and residual food product from a non-hypoallergenic food may be unintentionally placed into packaging for another specialized diet.

A recent study compared ingredients between a prescription venison-based diet and four OTC venison diets selected based on not having listed soy, beef, or poultry in the product ingredient list. Each diet was tested for soy, poultry, and beef antigens by an outside food laboratory. **The veterinary therapeutic diet was negative for all 3 food antigens. Three of the four OTC venison diets tested positive for soy, poultry, and/or beef. One of the OTC venison diets was negative for all the test antigens, but contained rice protein.**

In another study, laboratory testing for soy was performed on four dry pet foods carrying the claim "made with no soy". **Three of the four diet "no soy" samples tested positive for soy antigen**. The conclusion of the study was that dog food diets that claim to contain "no soy" may contain high concentrations of soy protein antigen and therefore should not be considered for soy elimination trials. This is likely the same for other ingredients in many other foods as well.

In another disturbing case in 2010, the FDA sent a letter of reprimand and demand for compliance with labeling regulations to a prominent OTC dog food manufacturer **after laboratory analysis of their lamb diet revealed no lamb, but beef was substituted instead. Additionally, the grain free duck formula pet food from the same manufacturer was found to not contain any duck.**

Another question pet owners often ask is why blood testing for food allergy in animals is not recommended In dogs, blood testing for food allergy is unfortunately not accurate, likely because food allergy in dogs may not be solely IgE related. In one study of dogs known to be soy and corn allergic, ingestion of offending food items caused significant itching, however measured soy and corn-specific antibody levels were not significantly elevated and could not be used to predict clinical sensitivity. In another study of dogs with clinically proven food allergy compared to control dogs (normal and non-food allergic skin disease), blood testing for food allergy showed positive reactions in only 2 of the control (normal) dogs and none of the food allergic dogs. **These studies demonstrate that a negative food allergy blood test does not accurately predict the absence of food allergy in dogs**.

A third study evaluated blood testing for 15 different foods in 91 dogs with pollen allergies (in which food allergy had been previously ruled out with a hypoallergenic diet trial), 72 dogs with gastrointestinal disease unrelated to food sensitivity, and 91 normal dogs. This study found that the normal dogs had more positive reactions to chicken, turkey, lamb and eggs, the dogs with pollen allergies had more reactions to wheat, egg, fish, pork, turkey, rice, soy, and yeast, and the GI disease group had more reactions to multiple food allergens, likely due to increased intestinal permeability from pre-existing disease. This increased reactivity in pollen allergic dogs may reflect a non-specific upregulation of the immune system to a variety of antigens with no clinical significance. **These results show that positive results of food allergy bloods testing do not correlate with clinical food allergy in dogs.** With the known inaccuracy of food allergy blood testing in companion animals, it makes more sense to spend the pet owner's time and funds on the prescription or home cooked hypoallergenic diet trial which is both diagnostic *and* potentially therapeutic.