## Diets that limit ingredients, not allergens, found to improve GI issues in dogs

December 14 2023, by Olivia Hall


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Restricting the number of ingredients in the diet lessens signs of disease in dogs with persistent gastrointestinal diseases, a study by researchers in the Department of Clinical Sciences in the Cornell College of Veterinary

Medicine has found.

Dogs with chronic enteropathy (CE), an umbrella term describing gastrointestinal diseases lasting for three weeks or longer, responded equally well to both the trial and control diets.
"Our findings question assumptions that have been made about the cause of food intolerance in dogs with CE, which was largely considered an adverse immune response to dietary antigens," said Kenneth Simpson, professor of small animal medicine and co-author of the study, published in the Journal of Veterinary Internal Medicine.

Many dogs with signs of CE-such as diarrhea, vomiting and weight loss -and without evidence of other diseases, often respond well to a change in food type. "But we really don't know why they're responding," Simpson said.

To home in on what may cause the disease, Simpson and his colleagues designed the first randomized, controlled study on this topic. Dogs with CE were randomly assigned one of three diets with similar calorie and macronutrient profiles: two "hypoallergenic" diets and one with fewer ingredients compared to most commercial pet foods. Neither pet owners nor investigators were aware of which diet each dog was receiving.

The hypoallergenic diets contained fish that had been hydrolyzed, a process that breaks up molecules that might otherwise cause an allergic reaction. "Hydrolyzed diets are thought to be beneficial in reducing immune hypersensitivities that are related to food," Simpson said.

The third group was fed the diet with fewer ingredients, but contained nonhydrolyzed proteins and other ingredients thought to trigger an immune response, such as those from corn, chicken and fish.

To the researchers' surprise, all dogs did better on their new diets-regardless of whether they were in the trial or control groups. Of the 23 enrolled dogs, 19 responded positively to the food they were initially assigned, with reduced disease activity and improved stool consistency. The four nonresponsive dogs were crossed over to a different diet and also improved, staying on for the duration of the study.
"Essentially, this group of dogs with low-grade, chronic enteropathy went into lasting remission with diet," Simpson said, "and the responses were independent of the diet being hydrolyzed or not, and independent of the dog having been previously fed antigens that were considered a potential cause of adverse reactions."

Eight other dogs with a more severe form of CE (protein-losing enteropathy, or PLE) got the hydrolyzed diets. While PLE has usually been treated with drugs to suppress the immune response, seven of the dogs saw an increase in body weight and sustained remission of GI symptoms on the new diet; for two of them, diet alone caused clinical remission.

These results challenge the belief that CE is driven by adverse reactions to certain common dietary antigens to which dogs have been previously exposed, but it's unclear what other ingredients, or combinations of ingredients, caused problems in the past.

The researchers are also puzzled by the fact that participants went into remission during this study after failing previous dietary trials. They suspect that owner compliance, not sticking to the prescribed diet or giving different food for snacks, may have played a role in the poor response. Other discrepancies between ingredients and labeling in commercial pet foods may have also contributed.

The current study's formal structure and regular follow-up with clinical
trials coordinators encouraged owners to stick closely to directions and avoid unsanctioned snacks.
"What that means in practical terms is that we should try several different diets for dogs with CE—with or without PLE—before escalating to using antimicrobial or immunosuppressive agents," Simpson said. "A single trial may simply not be enough to identify the right diet for your dog."

More information: Kenneth W. Simpson et al, Randomized controlled trial of hydrolyzed fish diets in dogs with chronic enteropathy, Journal of Veterinary Internal Medicine (2023). DOI: 10.1111/jvim. 16844

## Provided by Cornell University

Citation: Diets that limit ingredients, not allergens, found to improve GI issues in dogs (2023, December 14) retrieved 28 April 2024 from https://phys.org/news/2023-12-diets-limit-ingredients-allergens-gi.html

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