Dilated Cardiomyopathy & Diet

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In the Literature

Adin D, DeFrancesco TC, Keene B, et al. Echocardiographic phenotype of canine dilated cardiomyopathy differs based on diet type. *J Vet Cardiol*. 2019;21:1-9.

FROM THE PAGE ...

This study* retrospectively reviewed medical records of dogs diagnosed with dilated cardiomyopathy (DCM) over a 40-month period at an academic institution. Records were included only if the food brand and variety were adequately documented and there was an echocardiographic diagnosis of DCM.

Dogs were grouped into grain-free (GF) or grain-based (GB) diet groups based on label ingredients as reported by the manufacturer. Diets were categorized as GB if wheat, rice, oats, cornmeal, barley, bulgur, millet, rye, and/or spelt were listed or as GF if none of these grain products were listed. The GF group was further subdivided into 2 categories: those eating the most commonly fed GF diet (GF-1; $n = 14$) and those eating one of 12 other GF diets (GF-o; $n = 22$). Additional information evaluated from the records included echocardiographic variables, presence or absence of concurrent congestive heart failure, results of ancillary testing (eg, whole blood or plasma taurine, plasma L-carnitine, blood selenium, infectious disease testing, necropsy [if available]), and information regarding diet change, if performed.

A total of 91 patients were included. There was a lower median weight for GF-1 dogs as compared with GB dogs. Dogs eating GF diets (both GF-1 and GF-o) had greater left ventricular diastolic measurements than dogs eating GB diets. Most dogs eating any GF diet received taurine supplementation (regardless of taurine level results) and a diet change; 7 GF-fed dogs (GF-1, 6; GF-o, 1) were later re-evaluated and were shown to have clinical and echocardiographic improvement. No GF-fed dogs experienced new-onset or recurrent heart failure after diet change.

The authors concluded that the study results provide compelling evidence that a nutritionally based, partially reversible cardiomyopathy occurs in some dogs fed GF diets from smaller brands and is likely associated with more than just an omission of grains.

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… TO YOUR PATIENTS

Key pearls to put into practice:

1. Until more is known regarding the specific cause of diet-associated cardiomyopathy, the best practice is to recommend commercial diets that meet Association of American Feed Control Officials standards and that have undergone feeding trials with formulations confirmed and analyzed based on WSAVA recommendations.[1] Thus, boutique companies, exotic ingredients, and grain-free diets—recently termed BEG diets[2]—should be avoided.

2. Taurine levels should be evaluated in any patient diagnosed with DCM. Another study has subsequently reported an association between golden retrievers fed GF or legume-rich diets and taurine deficiency.[3]

3. Taurine supplementation, raw diets, and home-prepared diets are not a good alternative to BEG diets. If a patient requires a home-prepared diet for a medical reason or due to owner choice, a board-certified veterinary nutrition specialist should be consulted (see ***Suggested Reading***).

References

1. World Small Animal Veterinary Association. WSAVA global nutrition guidelines. World Small Animal Veterinary Association website. https://www.wsava.org/guidelines/global-nutrition-guidelines. Accessed May 22, 2019.
2. Freeman LM. It's not just grain-free: an update on diet-associated dilated cardiomyopathy. Cummings Veterinary Medical Center at Tufts University Clinical Nutrition Service website. http://vetnutrition.tufts.edu/2018/11/dcm-update. Published November 29, 2018. Accessed May 22, 2019.
3. Kaplan JL, Stern JA, Fascetti AJ, et al. Taurine deficiency and dilated cardiomyopathy in golden retrievers fed commercial diets. *PLoS One*. 2018;13(12):e0209112.

Suggested Reading

American College of Veterinary Nutrition. American College of Veterinary Nutrition website. http://www.acvn.org. Accessed May 22, 2019.

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