

The Hope Line

Summer 2019

Dear referring veterinary community,

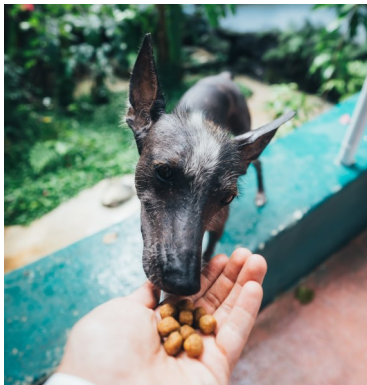
In this installment of The Hope Line Dr. Bertalan discusses the recent association between atypical dilated cardiomyopathy and “grain-free” diets.

We would like to congratulate Dr. Bertalan on her marriage to the love of her life! You will notice on your patients’ discharges that she is now going by Dr. Abigail Walls.

We hope you have a wonderful start to your summer. As always, we look forward to serving you and your patients!
Southeast Veterinary Oncology and Internal Medicine

Grain-Free diets: Getting to the Heart of the Matter

Diets for our pets come in so many formulations, varieties, and flavors nowadays that just visiting the food aisle in the grocery store can be daunting (as can recommending a diet for our patients!) In humans, diets which are low in gluten or devoid of certain wheat-based ingredients are becoming popular due to the recognition of celiac disease and food allergies. However, these diets are not always the best choice for dogs and cats. Recently, an association between heart disease in dogs and “grain-free” diets has arisen.



Dilated cardiomyopathy (DCM) is a disease in which contractility of the heart muscle is decreased, resulting in enlarged ventricles and atria which can lead to congestive heart failure and fatal arrhythmias. Previously, DCM was suspected to occur as an autosomal recessive trait in certain large breed dogs (Doberman Pinschers, Great Danes, Boxers) and as a taurine-responsive form in Cocker Spaniels. Taurine is a non-essential amino acid which can be synthesized in the body from methionine and cysteine precursors. Clinical signs include cough, collapse, dyspnea or weakness, and physical exam findings include, but are not limited to, pulse deficits, arrhythmias, heart murmurs, crackles on auscultation, and tachycardia.

The FDA has reported over 200 cases of DCM in dogs of non-predisposed breeds as of 2018. Many other cases are likely to go unreported or non-diagnosed. The dogs which were diagnosed with atypical DCM were found to be lacking normal taurine levels. They had been chronically eating diets which were high in meat (such as lamb), exotic ingredients (kangaroo, tilapia, fava bean, duck), legumes (such as peas or lentils), rice or potato ingredients, but low in grains which provide a source of taurine.¹

Article continued on reverse side

Grain-Free diets: Getting to the Heart of the Matter

Can dogs become depleted of taurine from diet alone? A study which experimentally fed dogs a diet high in lamb meal, as opposed to dogs fed a poultry meal diet, found higher levels of taurine excreted in the urine and low levels of blood taurine in the lamb-meal group.² Dietary fiber, fat, and bacterial flora also play a role in synthesizing taurine, so many factors besides absolute taurine levels are implicated. It is suspected that the proportion of legume-based proteins and fibers in grain-free diets may reduce the bioavailability of taurine, and that bacteria which produce cholytaurine hydrolase are over-produced, leading to the destruction of taurine. However, it is unknown which ingredients are specifically responsible. Not one single brand has been implicated in the development of DCM in these dogs.

The FDA recommends recording dietary history in all patients who are eating high-legume/low grain diets and who are suspected to have DCM, in addition to saving food labels and reporting their case to the FDA. Taurine can be supplemented in addition to sending out Taurine levels to UC-Davis (2 ml of whole blood in a green top tube) if desired. The dog should be switched to a diet which is not grain-free and contains standard ingredients (chicken, beef, wheat, corn).



The good news is that a study has documented clinical and echocardiographic improvement once the diet was changed, indicating that for some dogs this condition might be reversible.

Abigail Walls, VMD DACVIM

References:

1. Fascetti A. Taurine deficiency in dogs with dilated cardiomyopathy: 12 cases (1997-2001) JAVMA 2003; 223(8): 1137-41.
2. Torres C. Taurine status in normal dogs fed a commercial diet associated with taurine deficiency. J. Am. Physiol. 2003;359-371.
3. Freeman, L. Diet-associated dilated cardiomyopathy in dogs: what do we know? JAVMA 2018. 253(11):1390-1394.
4. Freeman, L. Relationship between circulating and dietary taurine concentrations in dogs with dilated cardiomyopathy. Vet Therio 2001. 2(4):370-8.

Orange Park 904.278.3870 | Jacksonville 904.567.7519



304 Corporate Way | Orange Park, FL 32073
14333-42 Beach Blvd. | Jacksonville, FL 32250

PLEASE
PLACE
STAMP
HERE

Mailing Address here