

Impact of Diet on Heart Function



The often-overlooked secondary cardiomyopathy

Who hasn't heard of DCM coming up with grain-free, exotic or boutique diets lately? It's an important issue that has been around for a fair amount of time, but for which we unfortunately have few answers to. The goal of this newsletter is to provide an overview of what is currently known about this matter.

Dilated Cardiomyopathy (DCM) is a disease of the myocardium, causing systolic dysfunction which, in the long term, can lead to heart failure. Often, when discussing DCM, the first idea that comes to mind is the genetic disposition Doberman have towards severe heart disease. The reality is that dilated cardiomyopathy can be either primary or secondary.

One of the most frequent nutritional causes of DCM in dogs is linked to taurine deficiency. Over the past few years now, many cases of taurine deficiency have been reported with Golden Retrievers and Cocker Spaniels, and suspected for Newfoundland, English Setter, Saint Bernard and Irish Wolfhound breeds. All of these patients had had echocardiographic signs of DCM and a low taurine count. After a taurine supplementation, a return to normal or quasi-normal functions were observed. The problem was resolved that easily!

Recently however, many medium to large breeds considered atypical for DCM have been diagnosed with it, and, without any evidence of taurine deficiency. The majority of patients were asymptomatic, but some showed signs of heart failure. These patients had no other cause for secondary DCM (see below). This new problem has come up as the popularity of unconventional diets increases. Here is what we currently know about this issue.

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www.fda.gov
www.vetnutrition.tufts.edu



The Latest on this Issue

- A significant number of dogs in the US and Canada are currently affected by this issue. On our end, we observe between 2 to 4 cases every week.
- Clinical signs vary: new low-grade systolic murmurs ranging to heart failure.
- Individual predisposition seems to exist, as not all patients are affected to the same degree. Even in the same bloodline, some dogs are more adversely affected than others.
- The period during which the food was ingested does not always correlate to the severity of the disease.
- Unlike primary DCM, young patients are also affected.
- Medium to large breeds are overrepresented. That being said, cases have been reported for small breeds, and even cats.
- Breeds that have a predisposition for DCM can also be affected.
- While grain-free is often referred to in these cases, the problem also occurs with boutique or exotic ingredient diets.
- The exact cause of the systolic dysfunction remains undetermined at this point in time. Many ingredients such as lentils, chickpeas, beans, kangaroo, venison and many other ingredients are explicitly suspected. An imbalanced diet, inadequate proportions, the impact of the ingredients on taurine absorption as well as the inclusion of undesirable ingredients are all being investigated as well.
- Very few cases have been reported for animals with a hypoallergenic diet, or veterinary-branded grain-free diets.
- Aside from Golden Retrievers, no taurine deficiency was identified in other affected patients. The current recommendations are to still evaluate taurine levels, mainly for Golden Retrievers and possibly Cocker Spaniels.



A well-informed owner is a better-equipped owner! It is important to debunk common myths about pet nutrition:

- A dog is not a human and cannot have the same diet as its owner.
- An exotic ingredient is not “more natural”.
- Pet food is not like gasoline. A higher price does not equal a higher grade or quality.
- Grains are not responsible for allergies. They are actually used as a source of protein, vitamins and minerals.
- The quality of food is not based on its first ingredient. A diet’s composition is complex and based on many factors (such as portion of each ingredient, ingredient interactions, etc.). Extensive testing and quality control is critical in establishing a diet.



Food companies under surveillance:

- Acana
- Taste of the wild
- Orijen
- Fromm
- Blue Buffalo
- Nature’s Domain
- Earthborn Holistic
- Merrick
- California Natural
- Natural Balance
- Nature’s Variety
- NutriSource
- Rachael Ray Nurish
- 4Health

For diet recommendations:

www.vetmed.tufts.edu/heartsmart/

- With a change of diet, and at times with cardiac treatment, many patients had a notable improvement in their condition (including ceasing use of some medications). This improvement tends to last longer than for other nutritional causes. The long-term impacts are not yet known, and we still do not know if there is a point of no return or not.
- Our current recommendations are that patients on these diets be examined and that a cardiac exam be performed. An echocardiogram is recommended, even if the diet is changed, to determine if heart medication is required or not. Cardiac auscultation for dogs with DCM can be tricky because it often causes very low grade murmurs that can be inaudible.
- When changing a diet, raw, vegetarian, vegan, or grain-free diets of another brand are not recommended.
- Adding grains or taurine to a grain-free or other suspected diet is insufficient and not recommended.
- A veterinary diet, or one from a well-established brand, which includes a proper expertise in nutrition, a battery of quality control tests and WSAVA approval is recommended.
- A nutritional history is critical and should be part of any anamnesis.

Secondary Cardiomyopathy in Dogs

Primary	Secondary
Genetic mutation or breed predisposition	Metabolic (hypothyroidism), infectious, inflammatory (myocarditis), infiltrative (neoplastic), immune mediated, toxic (doxorubicin), nutritional
Doberman, Great Dane, Irish Wolfhound, Giant Schnauzer, Newfoundland, Cocker Spaniel and Portuguese Water Dog	All breeds, including those predisposed to primary DCM