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Dietary-associated/Nutritional Cardiomyopathies in Dogs

Dilated cardiomyopathy (DCM), a form of heart disease characterized by poor pumping ability of the heart muscle, is most commonly caused by genetic factors in dogs. It has also been known to occur secondary to deficiency of taurine in a relative minority of dogs, with certain breeds historically overreported (e.g. *American Cocker Spaniel*, *Golden Retriever*, *English Setter*, *Saint Bernard*, *Irish Wolfhound*, *Newfoundland*).

Recently, a disproportionately large number of dogs have been diagnosed with DCM that have been fed or are being fed diets considered to be “**non-traditional**” (e.g. ‘*exotic*’, ‘*boutique*’, ‘*limited ingredient*’, or ‘*grain-free*’. This includes a larger proportion of Golden Retrievers, young and middle age dogs, and breeds not typically known to develop genetic or taurine deficiency-associated DCM.

Researchers at University of California-Davis, Tufts University, and the US Food and Drug Administration (FDA) are still investigating this phenomenon and it is critically important that dog owners understand what is **currently known** about this possible dietary association **from reliable sources** to avoid misinformation.

For the most up-to-date information, I highly recommend that all pet owners read the bulletin from Dr. Lisa Freeman and her team on the Tufts University School of Veterinary Medicine website using the following link:

(if you would like a member of our customer service team to print out a hard copy of this bulletin for you at the time of check out from your pet’s appointment, please ask!)

<https://sites.tufts.edu/petfoodology/2023/02/07/diet-associated-dilated-cardiomyopathy-the-cause-is-not-yet-known-but-it-hasnt-gone-away/>

So, what do we know?

Thus far researchers have determined that:

1. An association between feeding of non-traditional (e.g. *boutique*, *exotic*, *limited ingredient*, or *grain-free*) diets and dilated cardiomyopathy (DCM) appears to be present based on the initial evidence, but has not been definitively proven to be causal yet
2. Research has now shown that these diets (often termed “non-traditional diets”) are commonly grain-free, commercial dry dog foods. In fact, it is not the presence or absence of grain that appears to be the problem, but rather that most of these diets contain **pulses** and, to a lesser extent, potatoes or sweet potatoes. **Pulses** are peas, lentils, chickpeas, and dry beans. While pulses are part of the legume family, soy (another legume) has not been associated with this problem.

3. *Some, but not all* dogs with apparent diet-associated DCM are deficient in taurine, thus a second subset appears to exist that develop DCM despite normal taurine blood levels
4. Most dogs that develop apparent diet-associated DCM, associated with taurine deficiency or non-traditional diets, have been consuming these diets for at least one year, if not multiple. Thus, the detrimental effect is chronic, and not likely to have occurred yet in a dog who has been consuming such a diet for only a few months.
5. Investigation remains underway and information is constantly being updated.

Based on the current information provided from these researchers, the following recommendations have been made at this time:

- 1) For any dog diagnosed with DCM being fed a boutique/exotic/limited ingredient/grain-free diet, vegetarian diet, vegan diet, or home-prepared diet, taurine testing is advised (plasma and whole blood)
- 2) For any dog meeting the criteria of recommendation #1, all other dogs in the household should be screened for DCM
- 3) Complete dietary history details (*including primary diet, treats, chews, and supplements*) should be maintained for any dog with suspected diet-associated DCM and reported to the FDA by the veterinarian or owner. *The presence or absence of pulses cannot be predicted based only on the diet's name or whether the diet contains grains*, so the full ingredient list of the product must be reviewed. **If the diet contains pulses (for example, peas, pea protein, lentils, chickpeas, etc.) in the top ten ingredients (or multiple pulses anywhere in the ingredient list), it might put some dogs at risk for heart disease.**
- 4) For all dogs in which diet-associated DCM is diagnosed (*i.e. AFTER complete medical evaluation including echocardiogram*) the primary diet should be changed to a sodium-restricted diet made by a well-established manufacturer with standard ingredients (*e.g. chicken, beef, rice, corn, wheat*) that does not have pulses within the top ten ingredients (see #3 above).
- 5) Taurine supplementation is advised for all dogs diagnosed with diet-associated DCM, regardless of diet change.
- 6) Follow-up echocardiography is recommended in all cases, usually at 3-6 month intervals. Improvement may take up to 12-24 months.

For more information, dog owners can also read/download the information from the sources listed below:

Internet links:

<https://www.fda.gov/animalveterinary/newsevents/cvmupdates/ucm613305.htm>

<https://www.vetmed.ucdavis.edu/news/uc-davis-investigates-link-between-dog-diets-and-deadly-heart-disease>