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Grain-free diets, Taurine deficiency, and Dilated Cardiomyopathy 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 relatively small number of dogs each year, with certain breeds historically over-reported (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 'exotic', 'boutique' 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 currently investigating this phenomenon and **it is critically important that dog owners understand what is currently known about this possible dietary association from appropriate sources** to avoid misinformation.

Thus far researchers have determined that:

1. An association between feeding of boutique, exotic, 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 at this time*
2. *Some, but not all* dogs with apparent diet-associated DCM are taurine deficient, thus a second subset may exist that develop DCM despite normal taurine blood levels
3. Investigation remains underway to determine if a causal association can be proven, and what dietary components appear to be playing significant roles in development of disease

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/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. Cases in Golden Retrievers should also be reported to the Josh Stern Cardiac Genetics Laboratory at UC-Davis
- 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 one made by a well-established manufacturer with standard ingredients (*e.g. chicken, beef, rice, corn, wheat*).
- 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 specific information it highly advised that dog owners read/download the information listed below:

PDF downloads:



Vet Nutrition - Heart
Disease Risk



UC Davis -
Diet-associated DCM

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>

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