



## RESEARCH PROGRESS REPORT SUMMARY

**Grant 02661:** Investigation into Diet-Associated Dilated Cardiomyopathy in Dogs

**Principal Investigator:** Darcy Adin, DVM  
**Research Institution:** University of Florida  
**Grant Amount:** \$211,521  
**Start Date:** 4/1/2019      **End Date:** 9/30/2021  
**Progress Report:** Mid-Year 2  
**Report Due:** 9/30/2020      **Report Received:** 9/24/2020

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### **Original Project Description:**

Dilated cardiomyopathy (DCM) is a serious disease of the heart muscle whereby the heart becomes enlarged with weak contractions. DCM can result in abnormal heart rhythms, congestive heart failure or sudden death. In dogs, DCM most often occurs in large- and giant-breeds, such as Doberman Pinschers, Boxers, Irish Wolfhounds, and Great Danes; in these dogs, survival time after diagnosis is often only months, even with aggressive medical therapy. Recently, veterinary cardiologists have recognized DCM more frequently in all breeds of dogs including mixed breeds, and even those not usually associated with DCM. There is suspicion that the disease in some dogs is associated with boutique, exotic ingredient, or grain-free (BEG) diets. Some affected dogs on such diets have shown reversal or improvement of their disease after changing their diet, supporting a potential association between consumption of a BEG diet and development of DCM. A specific cause, however, has not been identified, despite extensive nutritional testing of the dog foods and the canine patients. Moreover, the extent of the problem is unknown because only dogs that are symptomatic for DCM have been reported. It is possible that more dogs may be affected but not yet showing signs of heart disease. To investigate the extent of diet-associated heart problems in dogs, this multi-institutional team of veterinary cardiologists and nutritionists will prospectively screen a large population of apparently healthy dogs for DCM and compare important cardiac disease measures, including ultrasound of the heart, blood biomarker and taurine concentrations, and the frequency of DCM in dogs eating BEG versus non-BEG diets.



**Publications:**

We are in the process of preparing a manuscript for submission to the Journal of Veterinary Internal Medicine titled "Effect of Diet Type on Circulating Taurine Concentrations, Cardiac Biomarkers, and Echocardiograms in Four Dog Breeds".

We withdrew the abstract that we had planned to present at the ACVIM Forum because we felt it best to discuss the data only after it had gone through peer review.

**Presentations:**

None at this time.

**Report to Grant Sponsor from Investigator:**

The study titled "Investigation into Subclinical Diet-Associated Dilated Cardiomyopathy in Four Dog Breeds" is progressing on schedule. Enrollment for the first part of the study is complete and we are in the midst of statistical analysis of the data in preparation for submission of a publication within the next few months. We are also following dogs enrolled at UF that have bloodwork or echocardiographic abnormalities for a year after a diet change is enacted, to determine if any of the abnormalities will improve with nutritional intervention. We do not know if any or all of these abnormalities in these dogs are related to food and so the role of follow-up is critical to this assessment. The number of dogs being followed at this time is approximately 20% of the total enrolled at UF. We anticipate that this follow-up data will result in a 2nd publication.