RESEARCH PROGRESS REPORT SUMMARY

Grant 02323: Efficacy of Cannabidiol (CBD) for the Treatment of Canine Epilepsy

Principal Investigator: Stephanie McGrath, DVM, MS

Research Institution: Colorado State University

Grant Amount: $356,022

Start Date: 12/1/2017 **End Date:** 5/31/2021

Progress Report: End-Year 3

Report Due: 11/30/2020 **Report Received:** 11/25/2020

(The content of this report is not confidential and may be used in communications with your organization.)

Original Project Description:

Epilepsy is the most common neurologic condition in dogs. Approximately 20-30% of dogs receiving standard therapy remain uncontrolled for their seizures. Additionally, the side effects of the antiepileptic drugs (AED) are often unacceptable. Thus, there is a need for an AED that is efficacious with minimal side effects. Cannabidiol (CBD), a prominent non-psychotropic component of the Cannabis sativa plant, has been shown to have anti-convulsant properties. While CBD offers promise as a treatment for canine epilepsy, controlled studies are needed to prove its effectiveness. In this randomized, double-blinded, placebo-controlled, crossover clinical trial, client-owned dogs with uncontrolled epilepsy will be enrolled following a full seizure evaluation, including bloodwork and magnetic resonance imaging. The canine patients will first receive either a placebo or CBD in addition to their standard AED protocol and then the opposite drug in this crossover designed study. Seizure frequency and medication side effects will be monitored by owners using a seizure log and questionnaire. Regular CBD plasma concentrations, routine bloodwork and serial physical examinations will be monitored by the investigator. The primary goal of the study is to determine the efficacy of CBD in the treatment of canine epilepsy. If CBD is effective in decreasing seizure frequency, it has the potential to improve the quality and length of life for dogs with uncontrolled epilepsy, and add a much-needed tool for veterinarians in the treatment of canine epilepsy.

Publications: None at this time.

Presentations:

1. AVMA Annual Conference, 2018
2. CVMA Annual Conference, 2018
3. CSU CVMBS Annual Conference, 2018
4. CVMA Big Ideas Symposium, 2019
5. VetVine Webinar, 2019
6. AzVMA Annual Meeting, 2019
7. AKC Canine Health Foundation National Parent Club Canine Health Conference, 2019

Report to Grant Sponsor from Investigator:

The preparations for the CBD epilepsy study were started in December 2017, including hiring a full-time research assistant and part-time work/study student, creating all of the study documents necessary for the trial, and creating a newsletter/announcement for Colorado veterinarians. We began enrolling patients for the study at the end of January 2018. We anticipated enrolling 20 patients per year; we have completed the anticipated enrollment of 60 dogs. Additionally, we have been working with outside clinics in Colorado to help us in the enrollment process of the study. Three local specialty clinics with board-certified neurologists are conducting the study with CSU's oversight at their hospitals and general veterinarians are helping with the recheck appointments and blood draws. Our study has continued to gain a lot of media attention, which has helped generate interest in the study from pet owners and veterinarians. No severe adverse effects have been noted. Unfortunately, with the onset of the COVID-19 pandemic, this study was not allowed to enroll new cases for about 6 months. We have subsequently been granted permission to continue to collect data from the dogs that were enrolled prior to the University shutdown in March, and have also been able to enroll new patients, which allowed us to complete the study. However, the last set of dogs are still active in their study protocol, requiring a 6 month no-cost extension. The study is now scheduled to end in May 2021.