



RESEARCH PROGRESS REPORT SUMMARY

Grant 02686-A: Pattern of Thyroid Function Tests during Recovery from Acute Nonthyroidal Illness

Principal Investigator: Timothy Bolton, DVM

Research Institution: Virginia-Maryland Regional College of Veterinary Medicine

Grant Amount: \$13,792

Start Date: 1/1/2020 **End Date:** 6/30/2022

Progress Report: Mid-Year 1

Report Due: 6/30/2020 **Report Received:** 6/19/2020

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Original Project Description:

Hypothyroidism is the most common endocrine disease in dogs. A diagnosis of hypothyroidism relies on finding both appropriate clinical signs and low thyroid hormone levels. Unfortunately, other illnesses can suppress thyroid hormone levels and result in a misdiagnosis. This phenomenon of low thyroid hormone levels caused by a disease not involving the thyroid gland is known as nonthyroidal illness or euthyroid sick syndrome. It is important to distinguish between nonthyroidal illness and hypothyroidism as the treatment for each is different. Historically, the recommendation for a dog with nonthyroidal illness has been to resolve the underlying disease, followed by a recheck of thyroid hormone levels thereafter. However, the duration of time after resolution of the nonthyroidal illness necessary to perform accurate thyroid hormone level testing is unknown. This study will provide information about thyroid hormone levels during the course of nonthyroidal illness, and also establish the approximate duration of time for recovery of thyroid hormone levels to normal following illness resolution. These results will correlate clinically with more concrete recommendations for thyroid hormone level testing following resolution of nonthyroidal illness.

Publications: None at this time.

Presentations: None at this time.



Report to Grant Sponsor from Investigator:

This project, 'Pattern of thyroid function tests during recovery from acute nonthyroidal illness', was eligible to begin case enrollment in January 2020.

To date, no cases have been enrolled. Two cases have been screened for possible eligibility; however, both had total T4 results within reference interval and were not eligible. The reasons thus far for the difficulty in case enrollment are two-fold: first, the inclusion criteria were rather strict, therefore, we are relaxing our inclusion criteria approved by the University's Institutional Animal Care and Use Committee. Any dog undergoing anesthesia and/or surgery for treatment of a recoverable disease (gastrointestinal FB, gallbladder removal, fracture, GDV, etc.) will be eligible for inclusion so long as it fulfills the other inclusion criteria outlined in the funded grant. Second, our teaching hospital, starting middle of March 2020, largely shutdown due to the COVID19 pandemic. Our caseload dropped to 10-20% of normal, thus we were only able to attempt case enrollment for 2.5 months.

It is our expectation that with the hospital returning to normal function and relaxation of the inclusion criteria, case enrollment will improve. To allow for sufficient time to obtain the desired number of cases (25), the project timeline has been extended.