Title:
Assessment of coagulation function in naturally occurring canine hyperadrenocorticism

Investigators:
Tyler Klose, DVM (medicine resident) - tcklose@uga.edu
Kate E. Creevy, DVM, MS, DACVIM (medicine faculty) – creevy@uga.edu
Ben Brainard, VMD, DACVECC, DACVA (emergency/critical care faculty) – brainard@uga.edu

Study description:

Hypercoagulability and thromboembolism are commonly reported as risk factors associated with canine hyperadrenocorticism (HAC); however, this relationship has been poorly documented in the veterinary literature. This study is aimed to document the hemostatic tendencies of naturally occurring cases of canine HAC compared with unaffected animals, as well as evaluating medically controlled HAC dogs compared with normal and untreated dogs.

Dogs requiring cortisol measurement (whether for baseline, ACTH stimulation or low-dose-dexamethosone suppression test) are eligible to particpate. Dogs will be excluded for body weight less than 2 kg, documented atypical hyperadrenocorticism, documeted caval invasion by an adrenal tumor, inconclusive results on adrenal testing, or anesthesia and/or surgery within the prior 10 days.

At the time of the first blood collection in enrolled dogs, an additional 5.0 ml of whole blood will be collected. Thrombelastography and a platelet count will be run immediately, and the remaining plasma will be frozen for later analysis of prothrombin time, activated partial thromboplastin time, and fibrinogen and antithrombin levels.

Duration of study:

The study is ongoing and will continue until 20 dogs are enrolled in each of three groups – those with normal cortisol levels, those with newly-diagnosed HAC, and those with medically-controlled HAC. It is expected that enrollment will be complete by June 2009.

Potential benefits to veterinary medicine:

Naturally occurring HAC is a common endocrine disease in dogs. Generally speaking, the clinical syndrome caused by HAC, while frustrating to the owner, does not result in life-threatening disease. In some cases, an isolated ALP elevation, or moderate increased thirst and increased urination is the only clinical sign. Given that currently-available medical therapies are expensive, and carry risks of side effects, owners may not elect to treat in such cases. However, it is widely held that HAC is associated with hypercoagulability. Pulmonary thromboembolism (PTE) has been purported to be a complication of HAC by this mechanism.

If dogs with HAC are predisposed to PTE, that affects prognosis, and may impact the recommendation to treat HAC in minimally-affected dogs. Specific anticoagulant intervention may also be warranted as an addition to standard therapy. This study will give veterinarians valuable prognostic information for guidance of owners of dogs diagnosed with HAC, as well as further elucidating the risks associated with this disease.