Got Greyhound?

The University of Minnesota is investigating the genetic link between greyhounds and high potassium under anesthesia

Have an affected greyhound?

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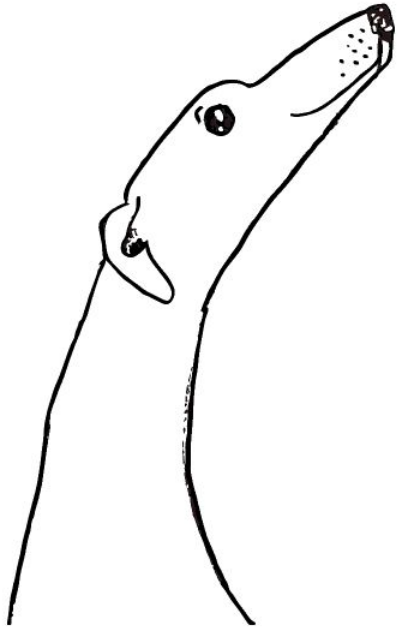

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Brief background and logistics

There have been increasing reports of dogs developing acute hyperkalemia while under general anesthesia with the underlying cause yet to be established (Pye & Ward, 2023; Tisotti et. al 2023). Of domestic species, there appears to be a possible predisposition for Greyhounds developing unanticipated hyperkalemia (Jones et. al, 2019; Pye & Ward, 2023). Hyperkalemic events occurred in 36 out of 95 (38%) anesthetized Greyhounds at a hospital in Colorado (Jones & Mama, 2018).

With more awareness in the veterinary community of the occurrence of hyperkalemia in greyhounds during general anesthesia, many veterinarians have instituted diligent monitoring and treatment when potassium levels begin to rise. This has allowed early identification before the potassium reaches life threatening levels and administration of medications to restore normokalemia. Intervention then facilitates continuation of the anesthetic procedure and improves safety of the patients. These life saving discoveries still leave us with questions such as why do greyhounds seem predisposed to hyperkalemia compared to other canine breeds and are there underlying trigger(s) that cause hyperkalemia to develop during anesthesia?

As there may be a breed and geographic correlation to development of high potassium in greyhounds, our aim is to sequence the genome of greyhound dogs from distinct geographical locations across the United States who experienced documented hyperkalemia during anesthesia and compare these genomes with the very large database of canine genome in the genetics labs here at the University of Minnesota campus to look for a potential mutation.

Owners of the greyhounds will be contacted and informed of this study and we will obtain signed permission to collect a blood sample (5 ml) from their dog. Please reach out to Dr. Caitlin Tearney tearn002@umn.edu if you have a patient or pet who would be willing to help us!

Interested in learning more about greyhounds developing hyperkalemia during general anesthesia? Click here!