

It's All In the Genes: The Genetic Landscape of Acute Myeloid Leukemia in Dogs

Purpose of study

Acute myeloid leukemia is a devastating blood cancer that is rapidly fatal, with most dogs succumbing within 2 months. Currently in veterinary medicine, we have few ways of treating this leukemia and know little about the underlying genetic defects. In people, genetic analysis has revolutionized treatment of acute myeloid leukemia, with drugs being developed to target the primary underlying genetic abnormality. We are working to make that possible in veterinary medicine, too, but we need knowledge of the genetic abnormalities that are responsible for the leukemia.

Eligibility criteria

Dogs with a diagnosis of acute leukemia based on CBC with blood smear evaluation, or bone marrow cytology.

Study details

We ask to collect a small amount of blood and a mouth swab for DNA with owner's informed consent. There are no further obligations or responsibilities. Please contact the referral coordinator to refer your patient to the oncology service for clients seeking treatment for acute leukemia. If treatment is not desired, your patient may participate in the study remotely. We will send you a sample collection kit, consent form, and prepaid shipping label.

Study benefits & cost

The study will pay for flow cytometry analysis of blood or bone marrow to confirm acute myeloid versus lymphoid leukemia. We will sequence the genes of the tumor cells in your patient to discover which ones are abnormal and potentially responsible for the tumor. While your patient may not directly benefit from this study, studies like this represent the future of medicine and are needed to improve the diagnosis and treatment of disease.

There is no cost to be involved in this study, which is funded through the American Kennel Club Canine Health Foundation. Your client will be responsible for other costs of their dog's visit, however the study is paying to confirm that the leukemia in your patient is acute myeloid leukemia (versus acute lymphoid leukemia or Stage V lymphoma).

Think you have an eligible patient?

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This study is IACUC-approved (#2893-0222).

