FINAL REPORT

Determining the Prognostic Value of Identifying Genetic Mutations in Dogs with Lymphoma

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Prognostic value of MYC gene breakage falls short of expectations for lymphoma diagnostic test, but team builds valuable resource for future studies.

Lymphoma is one of the most common cancers diagnosed in dogs. Lymphoma is treatable but rarely curable, and treatment can place a significant emotional and financial burden on owners. There are different types of lymphoma with each having a different long-term prognosis. Diffuse large B cell lymphoma (DLBCL) is one type of lymphoma that affects dogs and people. In people with this type of cancer, patients with rearrangements in the MYC gene have a poorer prognosis than patients without alterations in this gene.

Morris Animal Foundation-funded researchers at North Carolina State University wanted to examine if a similar association existed in dogs with DLBCL. If a similar association existed, this could provide crucial information for veterinarians and pet owners making treatment decisions.

The team looked for abnormalities in the MYC gene in more than 100 samples obtained from dogs with DLBCL. Although 16 percent of lymphoma samples had an abnormality detected in MYC, abnormalities were not associated with duration of first remission, as seen in human patients.

A gain from this study is the team assembled an impressive collection of more than 600 canine lymphoma tissue samples that will provide a powerful cohort for future researchers. The study also was the basis of a postdoctoral project for a promising new research scientist.

Thanks to the generous sponsors of this study!