



RESEARCH PROGRESS REPORT SUMMARY

Grant 03300: Probiotic Prevention of GI Hyperpermeability and Metabolome Disturbances in Dogs with Multicentric Lymphoma Undergoing Multi-drug Chemotherapy

Principal Investigator: Maria Jugan, DVM, MS, DACVIM

Research Institution: Kansas State University

Grant Amount: \$167,442.00

Start Date: 10/1/2024 **End Date:** 9/30/2027

Progress Report: Mid-Year 1

Report Due: 3/31/2025

(The content of this report is not confidential and may be used in communications with your organization.)

Original Project Description:

Gastrointestinal (GI) side effects negatively impact dogs with lymphoma who are undergoing treatment with multi-drug chemotherapy. Up to 40% of dogs experience GI toxicity that requires dose reduction or treatment delays, which can increase the cost of care if hospitalization is required. As routinely prescribed medications inconsistently prevent GI toxicity, new options are needed. Disruption of the normal GI bacterial population, or dysbiosis, is implicated as a mechanism of GI toxicity. Dysbiosis induces GI structural changes, decreases intestinal absorption, and leads to increased permeability of the intestines. Microbiota metabolism is also disrupted, leading to abnormal fecal metabolic by-products. These GI structural changes, hyperpermeability, and metabolism disruption increase the risk of diarrhea, GI bacterial translocation, and sepsis. Probiotics improve metabolome profiles, reduce severe diarrhea, and improve the GI barrier in humans undergoing chemotherapy but are an incompletely explored option in dogs. The investigators will evaluate the impact of a commercial probiotic on GI permeability and bacterial metabolism abnormalities in dogs with lymphoma being treated with multi-drug chemotherapy.

Publications:

None at this time

Presentations:



None at this time

Report to Grant Sponsor from Investigator:

The study has been open for enrollment since Jan 1, 2025. Thus far, no dogs have been enrolled, so there is no clinical or objective data to report.