

# PROGRESS REPORT



## **D18CA-017, Finding Ways to Block Hemangiosarcoma Tumor Growth**

Dr. Erin Dickerson, University of Minnesota, D18CA-017

Morris Animal Foundation-funded researchers at the University of Minnesota are investigating how hemangiosarcoma cells use cholesterol and lipids preferentially to fuel cancer growth. Since healthy, non-cancerous cells are less dependent on cholesterol and fat for growth, the team is looking at novel ways to block tumor cells from using these metabolic fuels, which would harm the cancer cells while sparing normal cells. Specifically, they are assessing if drugs used to treat heart disease and high blood pressure in humans and dogs may disrupt this metabolic pathway. In other words, take away the fuel hemangiosarcoma cells need to grow.

The team has tested the effects of two beta blockers, propranolol and carvedilol, on tumor cell lines. They hope to better understand how these drugs disrupt metabolic programming in canine hemangiosarcomas. Because propranolol and carvedilol already are used in veterinary medicine, it will be easier to translate the use of these drugs into the clinic. This would be an enormous step forward in the treatment of this deadly cancer.

Hemangiosarcoma is an aggressive disease that is rapidly fatal in dogs, most commonly affecting the spleen and heart. It accounts for 0.2 to 3 percent of all canine tumors with a mean age at diagnosis of 9 to 12 years. Findings from this study will help optimize drug and chemotherapy combinations to provide better treatment options for patients. The development of new and less toxic approaches to treat canine hemangiosarcoma is an important step in improving survival rates for dogs diagnosed with this deadly cancer.

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