



**858-A - Evaluation of Novel Diagnostic and Therapeutic Modalities for Treatment of Canine Pulmonary Hypertension**

University of Missouri, Columbia: Dr. Deborah M. Fine

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**Abstract:** Pulmonary hypertension is a condition of elevated pulmonary artery pressure that occurs secondary to many diseases, or it may occur on its own without any known underlying abnormality. The Cardiology Service of the University of Missouri Veterinary Medical Teaching Hospital is recruiting dogs with pulmonary hypertension to participate in a clinical study evaluating the efficacy of a novel treatment, pimobendan. In addition, a new non-invasive diagnostic test of cardiopulmonary function, BNP concentration will be measured. Changes in BNP levels will be compared to traditional measurements for assessing severity of pulmonary hypertension such as cardiac ultrasound and quality of life scores. Dogs with moderate to severe pulmonary hypertension from any cause are eligible. Many purebred dogs are afflicted with pulmonary hypertension. Breeds that are particularly at risk are those that are prone to degenerative mitral valve disease (primarily small and medium sized breeds including Poodles, Cocker Spaniels, Cavalier King Charles Spaniels, Miniature Schnauzers, Dachshunds, Maltese, and many of the small terrier breeds), or idiopathic pulmonary fibrosis (most commonly West Highland White Terriers and Staffordshire Terriers). Moderate to severe pulmonary hypertension is usually associated with progressive signs of right heart failure (problems breathing, abdominal fluid accumulation, lethargy, and poor appetite) that ultimately lead to death.

The current therapies used to treat pulmonary hypertension in dogs are often expensive, or ineffective. Pimobendan is a new cardiac medication with phosphodiesterase III inhibition and calcium channel sensitizing properties. This results in blood vessel dilation and improved contraction of the heart. The purpose of this investigation is to determine if use of pimobendan in dogs with pulmonary hypertension results in a measurable decrease in the severity of their disease, quantified non-invasively by a cardiac ultrasound. Further, it will be determined if pimobendan therapy results in an improvement in the dog's quality of life. This will be assessed by owners using a validated quality of life questionnaire. Additionally, BNP levels in the blood will be measured and correlated with the severity of pulmonary hypertension, and the therapeutic response to pimobendan. Validation of BNP as a monitoring tool for pulmonary hypertension would reduce the need for costly cardiac ultrasounds which are generally only performed by specialists.

Pimobendan is approved for the treatment of heart failure in dogs in Europe and Canada, and it is an investigational drug for treatment of canine heart failure in the U.S. Preliminary studies using pimobendan to treat humans with pulmonary hypertension have demonstrated promising results.

Cash: \$1,000.00

Commitment

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