This study examined the respiratory effects of Wolbachia pipientis seropositivity in cats seropositive for Dirofilaria immitis. Cats infected with D immitis can be asymptomatic; show chronic coughing, labored breathing, or vomiting; or experience sudden death. Signs usually develop as the heartworms die and an acute vascular and parenchymal inflammatory response ensues in the lungs.

Twenty-two cats seropositive for D immitis were included; 14 were seropositive for Wolbachia spp, and 8 were seronegative. An additional 25 healthy cats seronegative for D immitis were included. Barometric whole-body plethysmography (BWBP)—a noninvasive pulmonary function test that assesses respiratory patterns and changes—was used to assess changes in respiration between the groups. Wolbachia spp seropositivity conferred significant differences in bronchoconstriction index variables, suggesting Wolbachia infection associated with D immitis infection produces a greater acute inflammatory response at the bronchial, vascular, and parenchymal levels, thus increasing bronchial reactivity.

**Commentary**

Our understanding of feline heartworm disease is expanding. Increasing knowledge of the relationship between D immitis and its bacterial endosymbiont Wolbachia spp has the potential to augment how we manage heartworm-infected cats. This study showed a significant difference in respiratory variables between healthy cats and those with heartworm-associated respiratory disease (HARD). In addition, a significant difference between HARD cats with and without detectable levels of antibodies against Wolbachia spp surface proteins was demonstrated. The incorporation of antibiotics effective against Wolbachia spp could be beneficial in reducing signs, but more study is needed.—Chris Adolph, DVM, MS

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**A New Way to Assess Coagulation?**

Hypercoagulability and thromboembolic events may have life-threatening consequences. Pulmonary thromboemboli can cause severe respiratory distress, and arterial or venous thrombi can compromise the cardiovascular system. Standard coagulation tests (eg, PT, aPTT) lack sensitivity. In addition, other quantification assays of components of the coagulation system (eg, antithrombin, D-dimers) do not clearly assess hypercoagulability and association with thrombotic events. Thromboelastography and thrombin generation assays are sensitive for detection of hypercoagulable states, but these assays can be expensive and are not always available. Overall hemostasis potential (OHP) assesses fibrin generation and lysis over time, and although it has assessed hypercoagulability in human plasma by calculating the area under a fibrin generation curve and assessing fibrinolysis, there are no reports about its use with canine plasma. The OHP assay may be useful in filling these voids in the study of hypercoagulable states.

This study aimed to determine if the OHP assay can be used for canine plasma and then optimize this assay to determine reference intervals using samples from 40 healthy dogs. The published human protocol for the OHP assay was altered to make it suitable for canine plasma, including use of less coagulation activator (thrombin) and more fibrinolysis activator (tissue plasminogen activator). The authors concluded that the OHP assay is acceptable to use as a cost-effective global coagulation assay, but more research is needed to determine if it is a suitable substitute for thromboelastography or thrombin generation assays.

**Commentary**

Because of the lack of familiarity many are likely to have with OHP and overall coagulation potential (OCP) assays, a greater level of information could be useful than that offered in this study, which evaluated the potential to analyze OHP and OCP in canine plasma samples—essentially serving as a proof-of-concept analysis. As only clinically normal dogs were evaluated and the assay was not analyzed in clinical situations or alongside other global coagulation assays (eg, thromboelastography), no reasonable inferences can be made with respect to OHP or OCP clinical application.—Daniel S. Foy, MS, DVM, DACVIM, DACVECC

**Source**