

Pulmonary Hypertension & Heartworm Disease

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In the Literature

Serrano-Parreño B, Carretón E, Caro-Vadillo A, Falcón-Cordón S, Falcón-Cordón Y, Montoya-Alonso JA. Pulmonary hypertension in dogs with heartworm before and after the adulticide protocol recommended by the American Heartworm Society. *Vet Parasitol.* 2017;236:34-37.

FROM THE PAGE ...

Pulmonary hypertension is one of the most serious complications that can occur in dogs with heartworm disease. The inflammatory response can increase during adulticide therapy as worms die and an increased amount of antigen is released.

It has been suggested that echocardiography might be a useful supplemental tool to help establish degree of pulmonary hypertension. However, accurate estimates require either pulmonary or tricuspid insufficiency to be present and measured with Doppler echocardiography. When there is no insufficiency across those valves, estimation is largely subjective.

This study aimed to use echocardiography—including a novel echocardiographic measurement that does not require the presence of pulmonary or tricuspid insufficiency—to evaluate pulmonary hypertension evolution in dogs with naturally occurring heartworm disease during adulticide therapy.

Thirty-four dogs with naturally occurring heartworm disease that were being treated following the American Heartworm Society's recommended adulticide protocol were evaluated with echocardiography before therapy and 120 days after therapy. Standard imaging planes were used to evaluate the worm burden in dogs. Doppler-derived estimates of pulmonary hypertension degree were taken. These were compared with

a Right Pulmonary Artery Distensibility Index (RPAD Index), a measurement of the difference in the diameter of the right pulmonary artery in systole and diastole.

The RPAD Index was found to be a simple and practical tool to use when good echocardiographic images are obtained. Further, based on the evaluated standard echocardiographic measurements, Doppler-derived measurements, or RPAD Index, the dogs in this study did not appear to have pulmonary hypertension progression over the course of the study.

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** American Heartworm Society recommendations for adulticide therapy should be followed.
- 2** Echocardiography can be useful to help estimate pulmonary hypertension degree, even when Doppler estimates of pulmonary and tricuspid insufficiency cannot be identified. However, quality imaging is important for this tool to be effective in general practice.
- 3** When American Heartworm Society recommendations for therapy are followed, there does not appear to be significant progression of pulmonary hypertension development in the short term (ie, 3 months). Longer-term evaluation using these techniques may be useful to determine whether additional therapy should be considered in dogs that exhibit echocardiographic or clinical signs after parasite elimination.