PAUS
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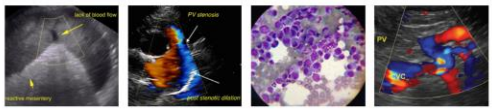


SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Tala Masson

SPECIES
Canine

BREED
Plott Hound

SEX
Female Spayed

AGE
1 year

WEIGHT
57.5lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Wignall Animal Hospital

REFERRING VET
Dr. Cringan

INVOICE
25317

DATE
7/14/22

PRESENTING CLINICAL SIGNS

History: Coughing. HW positive, needs treatment. No murmur. On minocycline monohydrate 50mg, 1 tab BID (intolerant to doxycycline). BP: 184, 188, 189mmHg

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is normal with adequate myocardial function. LV wall thicknesses are normal.
Left atrium: The left atrium is normal.
Mitral valve: The mitral valve is normal with no mitral regurgitation.
Aortic valve/aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: Normal right ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension.
Right atrium: Normal RA dimension.
Tricuspid valve: The tricuspid valve appears normal with no tricuspid regurgitation.
Pulmonic valve/pulmonary artery: The main pulmonary artery and branches are normal in dimension, although the distal portion of the branches have limited visibility. No obvious adult worm are visualized. The pulmonic valve is normal in morphology and mobility. Trace pulmonic insufficiency. Normal RVOT velocity; laminar flow.
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.
Heart rhythm: ECG reveals a sinus rhythm with an average HR of 80bpm.

2-Dimensional Measurements

Ao diam (cm)	2.2
LA diam (cm)	2.7
LA:Ao (Swe)	1.2
IVS thickness (cm)	0.9
LVID diastole (cm)	4.2
PW thickness (cm)	0.9
LVID systole (cm)	2.7
FS (%)	36

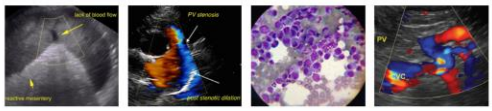
Doppler Measurements

PV Vmax (m/s)	1.4
AoV Vmax (m/s)	1.7
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

INTERPRETATION OF THE FINDINGS

Overtly normal cardiac structure and function with no obvious significant PAH. The right heart appears largely normal and MPA branches are normal in dimension. No obvious adult worms are seen; however, the distal branches are not able to be extensively visualized. It is important to note that ultrasound is largely insensitive even with good visibility (ie artifact is easily over-intepreted, and adult worms are easily missed in periphery). Suspicion is low in this case given a lack of right heart or MPA dilation. No additional issues are identified.

Heartworms if left untreated can cause significant damage to the lung tissue leading to pulmonary damage, pulmonary hypertension and clinical signs such as coughing, decreased ability to exercise, or difficulty breathing. Disease severity can range from an asymptomatic dog with few worms to dogs with severe respiratory signs. In the most severe cases, caval syndrome may develop due to a very high worm burden sheering



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blood cells as they pass through the heart. Caval syndrome is a life-threatening emergency that requires immediate surgical removal of the worms.

Given that this patient has only a mild cough and there is no right heart enlargement, we do have some flexibility when approaching therapy. Medical management with drugs like Sildenafil is typically utilized if the patient is showing respiratory signs such as dyspnea and/or syncope (none noted). The cough is likely related to pulmonary inflammation, and if the symptom does not improve with Minocycline alone a course of anti-inflammatory prednisone may be useful (+/- Hydrocodone). Baseline CXR are recommended.

Given an apparently low worm burden, no obvious indication for extraction in this case. Utilizing the standard approach to heartworm treatment as dictated by the American Heartworm Society is recommended, including 30 days of doxycycline and heartguard prior to the split immiticide protocol. Please see website and protocol for specific information. There is high risk for thromboembolism in any patient, however those with adult worms seen in the PA are no question at elevated risk. At this time, exercise restriction is paramount, including cage rest with leash walks only, as a worm embolus can be a life-threatening complication of the disease. This should be continued for an additional 6-8 weeks following therapy.

Modifications to this protocol are sometimes elected depending on individual circumstances which may involve fewer injections or a “slow kill” method. These are not, however, our standard recommendation as alternate treatment may not result in effective treatment of the infestation.

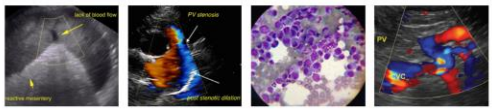
Following treatment, retest for heartworm disease 6 months after completing the full course of therapy. Anesthesia is NOT advised prior to completing the protocol, as vasodilation can lead to increased risk for an embolus. Prognosis is guarded, as the right heart/MPA changes are often permanent and may cause clinical signs (exertional syncope/dyspnea, right-sided CHF) in the future.

During therapy, there is high risk for a worm embolus and breathing rate and effort should be monitored closely. Patient will be at high risk for developing clinical signs due to pulmonary hypertension with age given the inherent secondary inflammation and damage to the pulmonary vasculature and lungs, and periodic rechecks may be helpful.

RECOMMENDATIONS

- Continue Minocycline as prescribed.
- Consider baseline CXR, a course of anti-inflammatory Prednisone, Hydrocodone, etc. to stabilize clinical signs.
- Recommend split protocol as dictated by the American Heartworm Society.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.
- Strict activity restriction is indicated.
- Monitor for exertional dyspnea or fainting episodes going forward.

PLAN



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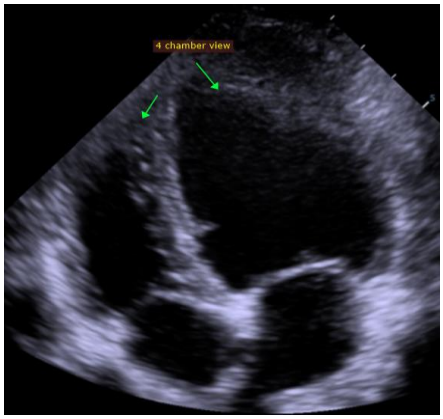
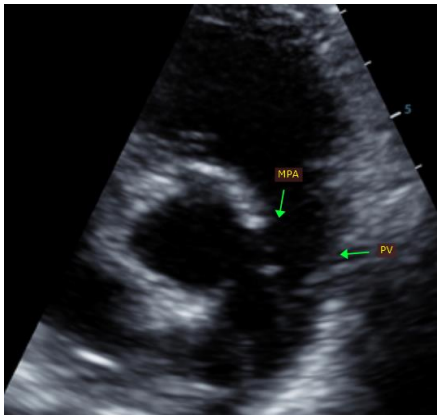
- Recheck should any signs of pulmonary hypertension arise and/or a murmur be ausculted in the future.

IMAGES





The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

Maggie Machen Lamy, DVM
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