



PATIENT

Rusty Connor

SPECIES

Canine

BREED

German Shepherd Mix

SEX

Male Neutered

AGE

4 years

WEIGHT

78.4lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Rebekah Jakum, CVT
ARDMS/RVT

HOSPITAL NAME

Pottsdawn AWS

REFERRING VET

Dr. DiBuono

INVOICE

21489

DATE

10/12/21

PRESENTING CLINICAL SIGNS

History: Recently adopted, heartworm positive. Started on treatment through the rescue but incomplete. Being given 3rd injection of Diroban on 10/8/21. Respiratory symptoms. Skin issues, Microfilaria found on kidney aspirate.

-Abnormal lab results: Increased WBC, elevated ALT.
-Current Medications: Doxycycline 200 BID, Gabapentin 300 2-3x, Prednisone 20

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

Normal cardiac silhouette. No obvious evidence of CHF.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve with no prolapse into the left atrial lumen. No mitral regurgitation, normal left atrial dimension. Normal LV diameter with adequate myocardial function. No significant TR. Mild right atrial and ventricular enlargement. The MPA and branches are minimally dilated. Adult worms suspected in the deep right branch of the PA; also noted in the main pulmonary artery; however, less significant. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No pulmonic or aortic insufficiency. No pericardial effusion. No obvious pleural effusion noted.

CARDIAC CHART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	NA	NA	NM	1.3	43	74	0.14
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	106	1.5	1.1	35.6	2.8	3.8	2.2
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Adult heartworm infestation is present in the pulmonary artery and branches. Heartworm infestation to this degree can cause significant damage to the lung tissue leading to pulmonary disease, pulmonary hypertension (not seen here) and clinical signs such as coughing, decreased



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ability to exercise, or difficulty breathing. Disease severity can range from an asymptomatic dog with few worms to dogs with severe respiratory signs.

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In the most severe cases, caval syndrome may develop due to a very high worm burden sheering blood cells as they pass through the heart. Caval syndrome is a life-threatening emergency that requires immediate surgical removal of the worms. Although no reported lab findings are definitive for caval syndrome, I would recommend **ensuring no hemoglobinuria is noted, and no RBC destruction seen by the Pathologist.**

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This patient has significant respiratory signs (as reported in the history), which are most likely secondary to heartworm disease/secondary pulmonary changes. If true caval syndrome is ruled out through lab work, the best we can do is treat the HW disease (extraction, Immiticide) and utilize supportive care for respiratory signs. Oxygen support can be used if needed.

SEX

Male Neutered

Sildenafil/Pimobendan are likely unnecessary at this time; however, steroid therapy should be continued at twice daily dosing. Consider broad spectrum antibiotic (Baytril or similar), theophylline, hydrocodone, etc as indicated.

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Any patient with visible worms in the cardiac structures should consider extraction (if available) to quickly decrease load and give the greatest chance for long term recovery. The procedure does carry risk, and if available should be discussed with a local Cardiologist ASAP.

WEIGHT

78.4lbs

Once the majority of the worm burden is removed if possible and the patient stabilized, I would continue utilizing the split protocol using Immiticide. Strict exercise restriction and administration of monthly heartworm preventative, such as Heartguard should also be initiated. Starting now through the end of therapy (6-8-week post-last immiticide injection), exercise restriction is paramount, including cage rest with leash walks only as a worm embolus can be a life-threatening complication of the disease. Following treatment, the patient should be re-tested for heartworm disease 6 months after completing the full course of therapy.

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(Cardiology)

Once heartworm negative, a recheck echocardiogram and chest radiographs are recommended in 6 months to assess for any chronic damage to the heart muscle, lungs or tricuspid valve.

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PLAN

Stabilization through O2 support, resp therapy if needed. Continue Prednisone, etc. as discussed if needed. Consider referral for worm extraction (highly recommended). Continue Immiticide therapy once stabilized, extraction performed, etc.

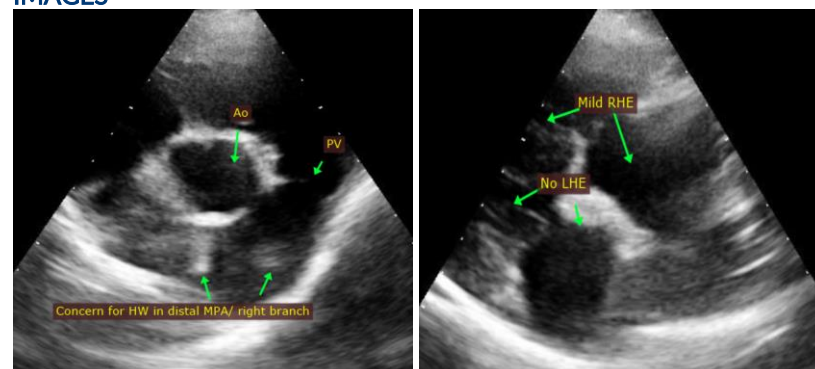
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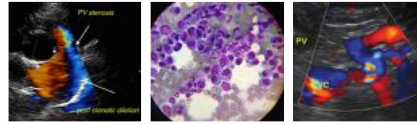


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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

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Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com

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