



PATIENT

Venus Samuels

SPECIES

Canine

BREED

Lab mix

SEX

Female Spayed

AGE

11 years

WEIGHT

88lbs

PRESENTING CLINICAL SIGNS

History: BP: 120mmHg. No murmur ausculted.

-ECG: Showed Sinus arrhythmia, ventricular arrhythmia and first-degree AV block

-Current medications: Prednisone 20mg BID and doxy 400mg BID for coughing and newly started Heartgard.

-CXR report: prominent right heart with cardiomegaly. MPA enlargement. Concern for heartworm disease.

-Abnormal CBC values: mild leukocytosis @ 16,700/uL, mature neutrophilia @ 12,191/uL, mild to moderate eosinophilia @ 1,837/uL, Abnormal Chemistry Values: Elevated serum globulins @ 4.3 g/dL, mild decrease in A/G ratio @ 0.7, ALP mildly increased @ 174 IU/L, T4 WNL @ 1.3 ug/dL, Abnormal UA Values: urine SpGr low @ 1.013, pH elevated @ 7.5, 3+ proteinuria noted, trace hematuria noted Other: , fecal negative, Accuplex 4dx neg x 4.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. No mitral regurgitation with normal left atrial dimension. Normal LV diameter with normal myocardial function. The tricuspid valve appears mildly thickened with mild to moderate tricuspid regurgitation. Velocity consistent with mild to moderate pulmonary hypertension. Mild right heart and MPA enlargement. The pulmonic and aortic valves are normal in morphology and mobility. No obvious aortic or pulmonic insufficiency. Normal pulmonic and aortic outflow velocities. No pericardial or pleural effusion noted. No cardiac tumors observed.

CARDIAC CHART

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Loetitia St-Jacques,
LVT/RVT

HOSPITAL NAME

Brighton Greens
Veterinary Hospital

REFERRING VET

Dr. Janeway

INVOICE

21188

DATE

9/22/21

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	3.2	NM	1.3	35	65	NM
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	NM	1.7	1.4	39.9	3.5	4.2	2.7
*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)

Adapted from June Boon, Veterinary Echocardiography, 1998
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435
Hansson et al, Vet Rad and Ultrasound 2002
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The primary abnormality identified is mild to moderate pulmonary hypertension with mild right heart/MPA enlargement. The left heart is normal, with adequate function and normal dimensions. No additional issues are identified.

The underlying genesis of PAH is poorly understood in cases other than heartworm infestation, though it occurs with increased frequency in a variety of forms of airway disease and in patients with idiopathic pulmonary fibrosis. In this dog with evidence of lower airway disease on chest radiographs, this is likely the result of a chronic cough due to airway disease. A recent 4dx was negative ruling out obvious heartworm infestation. Clinical signs of weakness, heavy breathing, and syncope are attributed to severe PAH, and may develop in the future.

Given the history, signalment, radiographs and echocardiogram findings, this patient has airway disease that over time has begun to affect the heart (PAH) creating early pressure elevation. In other words, the cough is non-cardiac in origin, however PAH may be developing secondary to it. It is important to note the PAH is considered early given only mild changes and does not warrant therapy at this time.

Recommend continued airway workup and/or treatment (i.e., TTW, BAL and/or broad-spectrum pulmonary antibiotics such as Baytril, aggressive Hydrocodone, theophylline, etc.). Omega fatty acid supplementation may be of some long-term benefit.

No cardiac contraindication for general anesthesia. Pre-oxygenating for 5-10 minutes is recommended prior to induction.

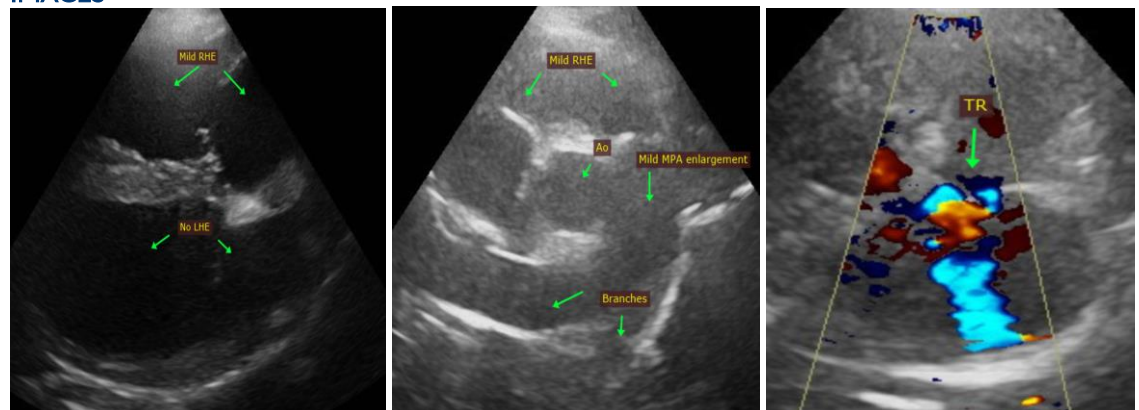
Monitor for development of a labored breathing, worsening cough, exercise intolerance or collapse episodes in the future.

PLAN:

Consider airway work up/treatment as discussed. Arrhythmia follow up should be based upon ECG report/findings.

Recommend recheck echocardiogram in 6-12 months to screen for progression, sooner if any associated clinical signs are noted (exertional dyspnea or collapse).

IMAGES





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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.

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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