



PATIENT

Prince Corkins

SPECIES

Canine

BREED

Chihuahua

SEX

Male Neutered

AGE

15 years

WEIGHT

8.8lbs

PRESENTING CLINICAL SIGNS

History: Chronic cough due to tracheal collapse. Recently getting worse.
-Current medications: Prednisone 5mg PO q24hr and Hydrocodone 5mg 1/4 tab PO q8h

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 20mm/mV. The average heart rate is 80bpm (range 50-100bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Profound respiratory sinus arrhythmia.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Trivial mitral regurgitation with normal left atrial dimension. Normal LV diameter with normal myocardial function. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. Velocity consistent with mild to moderate pulmonary hypertension. No significant right heart 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

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Clinic

REFERRING VET

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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	3.5	NM	1.3	54	87	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	1.0	1.1	4.0	1.4	1.8	0.9
*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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				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

Mild tricuspid regurgitation is identified with a TR velocity consistent with mild to moderate pulmonary hypertension (PAH). All 4 chambers measure normal with no significant structural



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disease. No additional issues are identified. The ECG shows a profound respiratory sinus arrhythmia which is likely due to high vagal tone, this is commonly seen in patients with respiratory disease.

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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 a dog with a reported chronic cough this is likely the underlying issue. Clinical signs of weakness, heavy breathing, and syncope are attributed to severe PAH, and may develop in the future.

BREED

Chihuahua

Given the history 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.

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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. There is no known benefit to Sildenafil prior to associated clinical signs such as syncope. That being said, a trial is benign and may be used to assess patient response.

WEIGHT

8.8lbs

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

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(Cardiology)

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. If desired, a trial of Sildenafil can be instituted 1-2mg/kg PO q8h for 2 weeks and assess response.

IMAGING PERFORMED BY

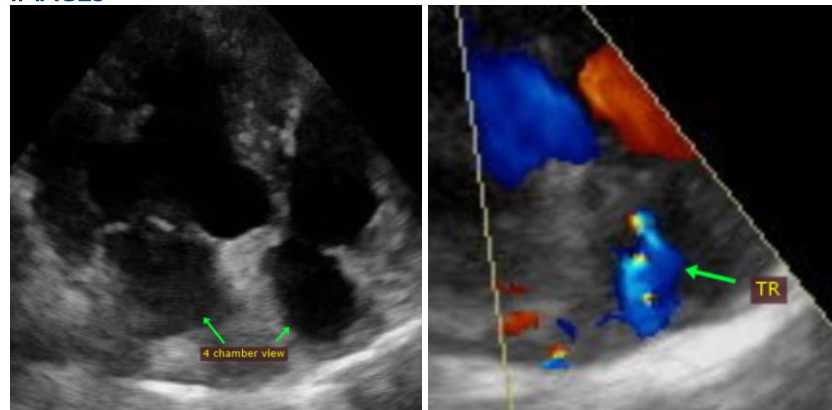
Loetitia St-Jacques,
LVT/RVT

Recommend recheck echocardiogram in 6-12 months to screen for progression, sooner if any associated clinical signs are noted.

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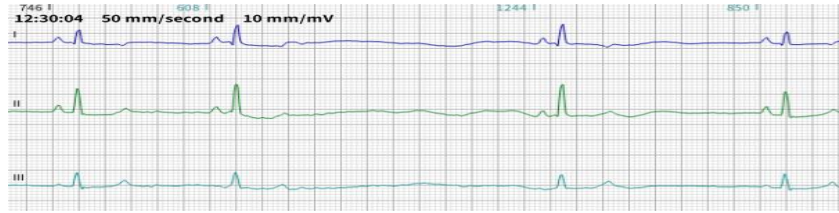
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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