



PATIENT

Axel Scott

SPECIES

Canine

BREED

Boxer

SEX

Male Neutered

AGE

6 years

WEIGHT

77lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Sam Doverspike,
DVM

HOSPITAL NAME

Franklin Animal Clinic

REFERRING VET

Dr. Doverspike

INVOICE

23479

DATE

4/6/22

PRESENTING CLINICAL SIGNS

History: History of upper respiratory stridor when sleeping or at rest. Exercise intolerance noted. Doxycycline and Theophylline have been attempted without improvement. Heart problem previously noted with no further information provided. No coughing; however, was seen at specialty center and diagnosed with bronchitis. Sildenafil started 2 weeks ago with improvement.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only. Normal cardiac silhouette. No obvious evidence of CHF.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 50mm/s, 10mm/mV. The average heart rate is 90bpm (range 55-111bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm with respiratory variation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no prolapse into the left atrial lumen. No mitral regurgitation with no left atrial dilation. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trivial tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. Trivial aortic and no pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

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	2.2	NM	1.3	43	76	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	1.5	0.8	34.9	2.6	3.0	1.7
*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)
<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)

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

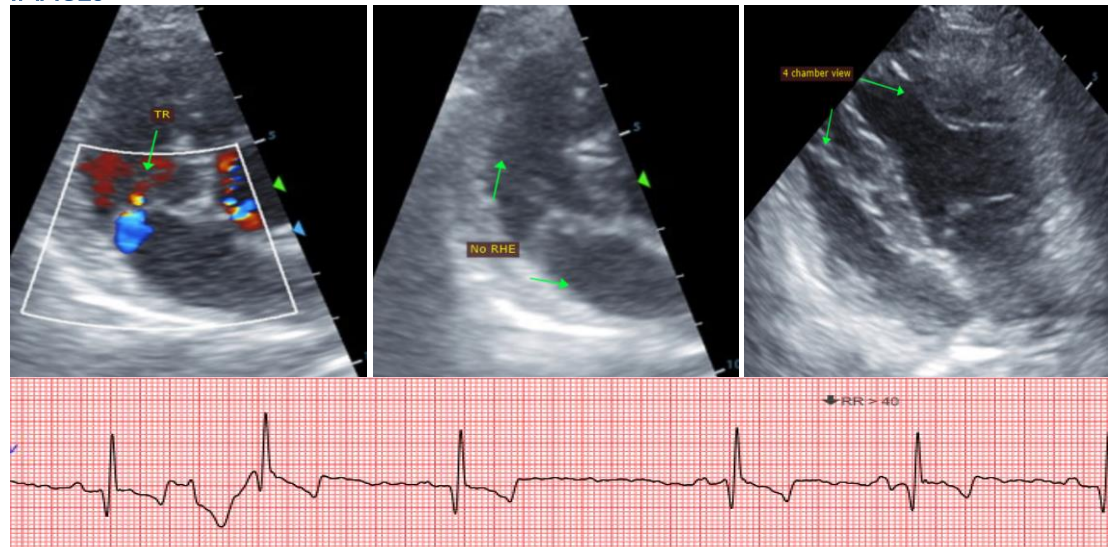
Overtly normal cardiac dimensions and function, with no obvious dysfunction or dilation of the left heart. The TR velocity is able to be measured and appears normal. The right heart is normal in dimension, further supporting this conclusion. Finally, a small aortic leak is noted, and a baseline blood pressure is recommended.

The ECG shows a respiratory sinus arrhythmia, likely due to underlying airway disease. There does appear to be some heart rate variation that stimulates at times, which is classic for high vagal tone.

Given these findings, no pulmonary hypertension is identified and Sildenafil can be safely discontinued. Pulmonary vasodilation is unlikely to be contributing to an improvement in clinical signs, particularly with the complaint of stridor at rest (PAH leads to dyspnea with exertion; normal at rest). All that being said, if there has been clinical improvement, it is likely of no harm if no ancillary therapy has been effective. Consider further respiratory evaluation if bronchitis is suspected, including a TTW or BAL if indicated. Monitor for signs for significant pulmonary hypertension developing, including exertional dyspnea or collapse.

A recheck echocardiogram is recommended should these symptoms be noted, or a murmur be identified 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.

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