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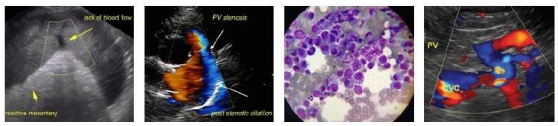

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT
Radar Light

SPECIES
Canine

BREED
Shepherd Mix

SEX
Male Neutered

AGE
11 years

WEIGHT
64.8lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Loetitia St-Jacques, LVT/RVT

HOSPITAL NAME
Options Veterinary Clinic

REFERRING VET
Dr. Pearson

INVOICE
20543

DATE
8/13/21

PRESENTING CLINICAL SIGNS

History: Historical heavy breathing started earlier this year. Increased cough. Concern for CHF on CXR. Mild improvement on Lasix. No murmur ausculted.
-Current medications: Salmon oil supplement. Carprofen 75mg Give 1 tablet PO BID, Furosemide 20mg Give 4 tablets PO BID (>5mg/kg/day).
-Blood pressure: 82/57 (65) 176/97 (123) 101/83 (89)mmHg.

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

Normal cardiac silhouette. No obvious evidence of CHF.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 50mm/s; 10mm/mV. The average heart rate is 1100bpm (range 85-150bpm). 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: 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. Trace/mild central mitral regurgitation with no left atrial dilation. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with no obvious tricuspid regurgitation. 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. No obvious aortic or 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	NM	NA	NM	1.1	28	55	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	NA	1.2	0.8	29.4	2.6	4.0	2.8
*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)
				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)

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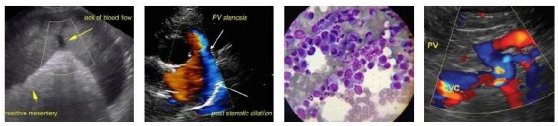

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**Note: All measurements based upon multi-modal images and methods. An average value is reported.*	15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
	20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
	25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Adapted from June Boon, Veterinary Echocardiography, 1998	30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435	35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Hansson et al, Vet Rad and Ultrasound 2002	40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
Bonagura et al. Echocardiography: principles of interpretation, Vet	50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overtly normal cardiac dimensions and function, with no obvious dysfunction or dilation of the left heart. Trace/mild mitral regurgitation may be reflective of early valve disease or may simply be a normal variant. Follow up is advised should a murmur be ausculted. No significant valvular leaks are visualized, and no evidence of pulmonary hypertension. The ECG is unremarkable with a normal sinus rhythm.

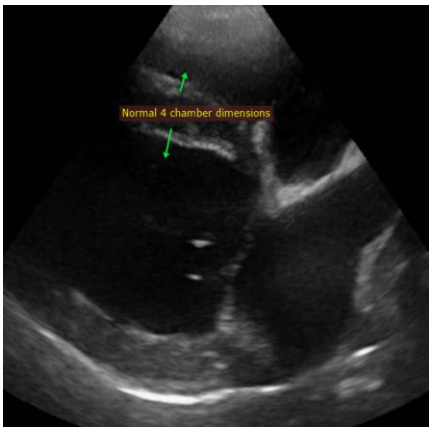
No cardiac medications are indicated at this time as the cough appears non-cardiac in origin. Additionally, **congestive heart failure is not suspected, and Lasix can and should be safely discontinued.** Continued work up for infectious/inflammatory respiratory causes is recommended. Options include Baytril or similar antibiotic, anti-inflammatory prednisone, aggressive hydrocodone, etc. If refractory, may consider TTW/BAL for further information.

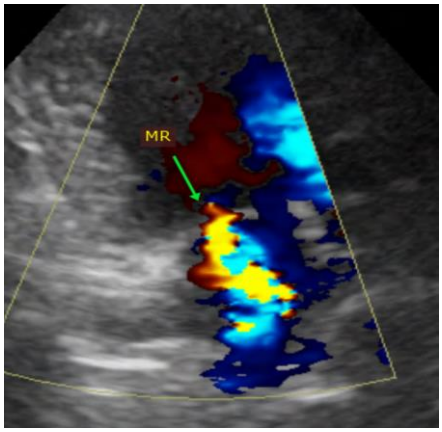
Monitor for development of a heart murmur, cough, labored breathing, exercise intolerance or collapse episodes.

The reported blood pressures are too variable to interpret. Ideally obtain serial measurements in a controlled, low stress environment and continue until the readings plateau within 5mmHg of variability for 3+ readings.

Chronic respiratory issues can lead to pulmonary hypertension if poorly controlled and a recheck echocardiogram is recommended should any exertional syncope/dyspnea occur, or a murmur be noted in the future.

IMAGES





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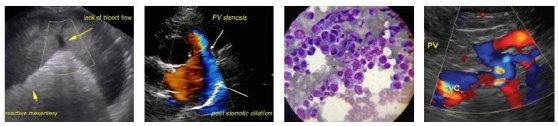

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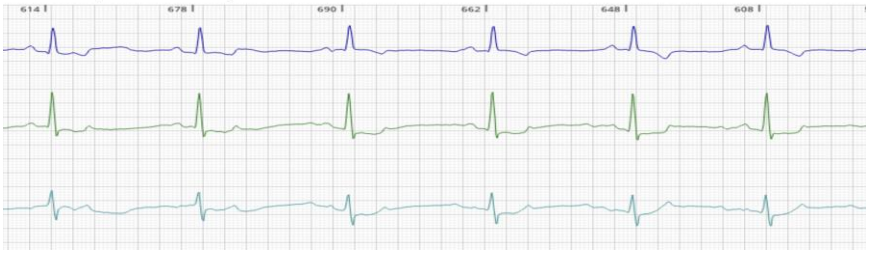

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com