



**PATIENT**

Dahlia Moorehead

**SPECIES**

Canine

**BREED**

Mix

**SEX**

Female Spayed

**AGE**

12 years

**WEIGHT**

53.5lbs

**INTERPRETED BY**

Maggie Machen  
 Lamy, DVM, DACVIM  
 (Cardiology)

**IMAGING PERFORMED BY**

Sara Hansen

**HOSPITAL NAME**

VCA Vitality

**REFERRING VET**

Dr. Clawson

**INVOICE**

25211

**DATE**

7/7/22

**PRESENTING CLINICAL SIGNS**

History: Coughing, collapses once a week after coughing. Coughs after getting up from laying down; furosemide helps with the cough.

Abnormal PE/Chem/CBC/UA Results: ALT=156 on 06/16/22.

-Pressure measurements: 151/102/112mmHg.

-Current Medications furosemide 40mg, 1/2 to 1 tablet orally twice daily as needed for coughing.

**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, 20mm/mV. The average heart rate is 110bpm (range 88-136bpm). 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 dysrhythmias observed.

ECG diagnosis: Normal sinus rhythm with respiratory variation.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Mild thickening of mitral valve leaflets with no obvious prolapse into the left atrial lumen. No obvious mitral regurgitation with no left atrial dilation. Normal LV diameter and function. Normal LV wall thicknesses. The tricuspid valve appears normal with no 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	NA	NA	1.2	1.1	32	60	0.1
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	97	1.1	0.7	24.3	2.1	3.3	2.3
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>				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)
Adapted from June Boon, Veterinary Echocardiography, 1998				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
Hansson et al, Vet Rad and Ultrasound 2002				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)



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Clin North Am 15:1177, 1995	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)

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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. No significant valvular leaks are visualized, and no evidence of pulmonary hypertension. The ECG is unremarkable with a normal sinus rhythm.

No cardiac contribution to the cough is seen here, and primary respiratory causes should be considered more likely (tracheal collapse, pulmonary disease/infection/inflammation, etc.). Highly recommended thoracic radiographs with a radiologist review in light of echo findings. Depending on the severity of symptom, consider TTW, BAL, course of Enrofloxacin or Azithromycin, bronchodilator trial, steroids, etc. No indication for Lasix from a cardiac standpoint.

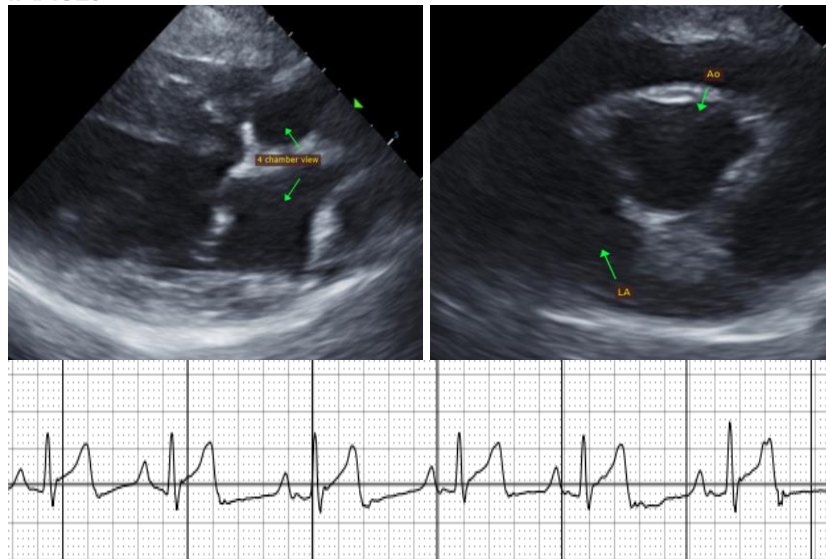
Additionally, these findings make cardiogenic syncope highly unlikely. Given the reported correlation with coughing, vasovagal events are suspected. Other causes including an arrhythmia (not seen here) cannot be entirely ruled out without further testing such as a Holter monitor, however given the history and lack of structural disease in this dog these are considered unlikely. Monitoring for repeat episodes is recommended.

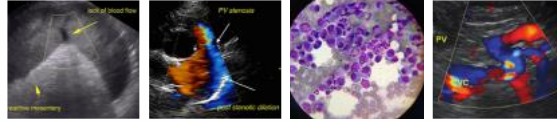
**PLAN**

No obvious indication for Lasix therapy at this time. Consider further cough control.

A recheck echocardiogram is recommended should a murmur or signs of disease be noted in the future.

**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.

**Maggie Machen Lamy, DVM**  
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