



**PATIENT**

Sadie Torrence

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

Female Spayed

**AGE**

9.9.10

**WEIGHT**

7.69lbs

**PRESENTING CLINICAL SIGNS**

History: Recheck echo. Recent progression of cough; initially started on Enalapril, Vetmedin, Lasix in Aug 2020; Lasix d/c following initial echo report; p had been doing well but daughters of primary owner now helping to care for p and Enalapril was inadvertently d/c and Vetmedin was only being given 1 tab in AM; adjusted all meds to what was listed above on 2/15/22.

-Current medications: All started 2/15/22-Vetmedin 1.25mg in AM, ½ in PM, Enalapril 2.5mg in AM, ½ in PM, Lasix 12.5mg- ½ BID, Cough tabs ½ BID.

-Sedation used: Not required to complete full diagnostic ultrasound.

-Pertinent previous ultrasound results (8/10/2020 MML): Mild MR, no LAE, normal LV, mild TR; 2.7m/s, LA: 1.3, LV: 2.1.

-STAT: Not requested

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Mild thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Mild eccentric mitral regurgitation with mild left atrial dilation. Normal MR velocity. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with mild tricuspid regurgitation. TR velocity is mildly elevated. No right heart enlargement. 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**

**INTERPRETED BY**

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Stephanie Pearce, RDCS, RVT

**HOSPITAL NAME**

Everhart Veterinary Hospital

**REFERRING VET**

Dr. Hess

**INVOICE**

22803

**DATE**

2.24.22

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	6.1	3.0	NM	1.5	53	86	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	200	1.1	0.9	2.1	1.6	2.4	1.1
*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)
*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

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease persists with evidence of slight progression. Mild mitral and tricuspid regurgitation are unchanged; however, the left heart is mildly enlarged. Mild pulmonary hypertension has developed, likely secondary to the cough. No additional issues are identified.

Given these findings, there is still no indication for Lasix in this case and this can be safely discontinued. Additionally, in the absence of systemic hypertension, Enalapril is likely unnecessary as well. It is reasonable to continue Pimobendan going forward given the complex history. More aggressive cough suppression is also advised. Baseline chest radiographs are recommended.

Continued assessment of progression in the future will help predict long term prognosis, which is guarded at this stage (B2). Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

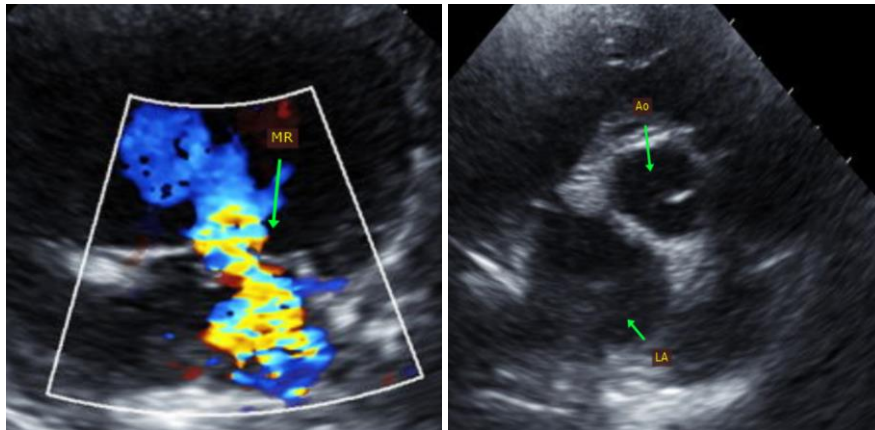
Anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

## PLAN

Consider screening chest radiographs. Discontinue Lasix as discussed. Consider discontinue ACE-I pending BP assessment. Continue Pimobendan as prescribed.

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of additional clinical signs.

## 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.

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