



**PATIENT**

Gracie Smidt

**SPECIES**

Canine

**BREED**

Shepherd Mix

**SEX**

Female Spayed

**AGE**

7 years

**WEIGHT**

47.4lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Kim Liedberg

**HOSPITAL NAME**

SVS Imaging WI

**REFERRING VET**

Dr. Sobon

**INVOICE**

25518

**DATE**

7/25/22

**PRESENTING CLINICAL SIGNS**

History: Recheck echo. Diagnosed with CHF, DCM and seizures in 11/2021. Grade 3/6 both side heart murmur noted on current exam. Assess prior to anesthesia.

-Current medications: Phenobarbital, Benazepril Pimobendan, Furosemide.

-Pertinent previous echo findings (11/2021 SK DACVIM Card): no hx provided; VPCs, severe LVE; global sys dysf, severe LAE, central MR, no RHE, mild TR, borderline PAH; LVIDd 5.9, LVIDs 5.3, FS 11%, LA 3.7cm LA: Ao Sax 1.89, TR 2.8m/s; DX: DCM, CVD, CHF, VPCs

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Mild left ventricular dilation with moderately depressed myocardial function and increased sphericity. Normal LV wall thickness. Moderate left atrial enlargement. The mitral valve appears mildly thickened with no prolapse into the left atrial lumen. Mild double jet of mitral regurgitation. Normal MR velocity. Tricuspid valve appears normal in form and function. No significant right atrial or ventricular dilation. Mild tricuspid regurgitation. TR velocity is normal. The aortic valve is normal in morphology and mobility. No subvalvular ridge present; normal LVOT velocity. No aortic or pulmonic insufficiency. Normal RVOT velocity. No pericardial or pleural effusion noted. No obvious cardiac tumors.

**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	5.1	2.7	1.4	1.6	18	30	1.2
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	54	1.4	0.76	21.5	2.6	4.4	3.6
*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)
<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**

LV dilation and dysfunction persists. The FS is moderately depressed; however, both the LA and LV dimensions are only mildly increased. Mild MR are TR are noted, which should be monitored going forward. No additional issues are identified.

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Compared to what is available from the prior study, these findings do suggest some improvement overall. This is difficult to explain in the absence of a diet-related or other reversible issue. Regardless, mild to moderate LA/LV enlargement would suggest risk for complications has decreased comparatively. A recheck ECG is strongly recommended.

**SPECIES**

Canine

Given these findings, continue cardiac support is recommended as prescribed (no dosages are included for evaluation/comparison). No obvious indication for additional medications at this time. Cases of systolic failure are at high risk for malignant tachyarrhythmias (such as VT or rapid AF) and sudden death, and this should be expressed to the owner. Activity restriction remains advised.

**BREED**

Shepherd Mix

Anesthetic risk is still moderately elevated given a patient in stable CHF with a history of ventricular arrhythmias. Should you elect to proceed, cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O<sub>2</sub> cage. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Moderate IV fluid restriction is recommended to avoid fluid overload, while considering comorbidities, hydration status, BP, etc. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

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Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, worsening labored breathing, abdominal distention, exercise intolerance or collapse episodes in the future. Monitoring of sleeping breathing rates at home is recommended to assess response to medications and recurrence of CHF in the future.

**WEIGHT**

47.4lbs

**PLAN**

Continue Pimobendan, Furosemide and Benazepril pending dosage/BP assessment.

**INTERPRETED BY**

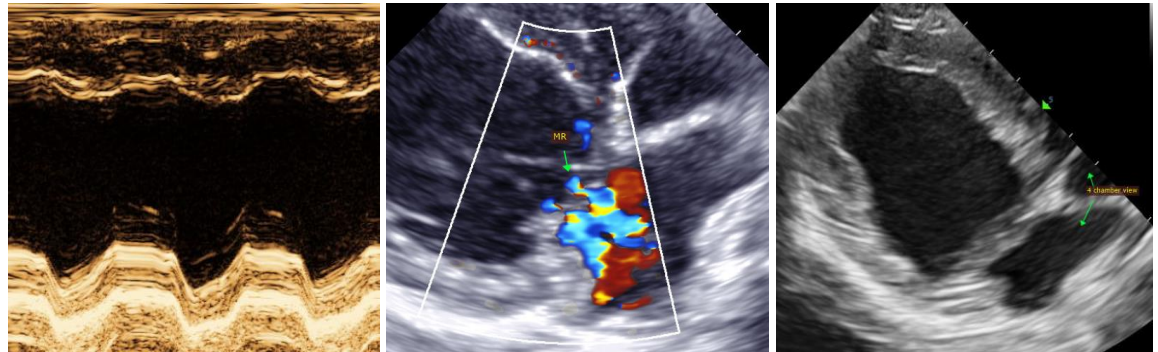
Maggie Machen Lamy,  
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Monitor renal values and BP every 3-4 months lifelong.

A recheck echocardiogram is recommended in 6 months to screen for progression, sooner if clinical issues arise in the interim.

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Dr. Sobon

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.

**INVOICE**

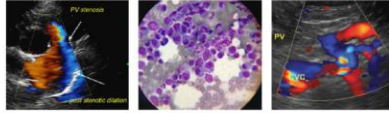
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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

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Diplomate of the American College of Veterinary Internal Medicine (Cardiology)  
info@sonopath.com

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