



**PATIENT**

Molly Motz

**SPECIES**

Canine

**BREED**

Yorkie

**SEX**

Female Spayed

**AGE**

9.5 years

**WEIGHT**

7.4lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging MI

**REFERRING VET**

Dr. Rivas

**INVOICE**

29833

**DATE**

3/24/23

**PRESENTING CLINICAL SIGNS**

History: Presented for not acting right and disoriented. Was collapsing and having fainting spells starting last week. Also reported some difficulty breathing.  
-Abnormal PE/Chem/CBC/UA Results: ALT, ALP mild to moderate elevations.

**RADIOGRAPHIC FINDINGS** \*NOTE: Images submitted for supplemental cardiac information only.  
Cardiomegaly. Concern for CHF.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Diffuse nodular thickening of mitral valve leaflets. Minimal prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial enlargement. MR velocity is elevated. Mild LV dilation with hyperdynamic function. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. Velocity consistent with moderate pulmonary hypertension. Mild right heart enlargement. The pulmonic and aortic valves appear normal in appearance and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic insufficiency noted. Mild MPA and branch dilation. No pericardial or pleural effusion seen. 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	5.4	3.5	NM	2.5	52	82	0.2
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	190	1.2	0.8	3.3	2.3	2.5	1.2
*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**

Chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Four chamber dilation indicates there is an elevated risk for spontaneous congestive heart failure. Moderate pulmonary hypertension is noted which is secondary to chronic LA pressure elevation and active congestion. No additional issues are identified.

**IMAGING PERFORMED BY**

svsmobileimaging.com 309-737-3070



Clinical Sonography &amp; Telecytology

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Syncope and breathing issues in this patient are certainly cardiogenic in origin. The chest films are concerning for early congestive heart failure. Possible causes of syncope include poor forward blood flow leading to hypoxia, early CHF, pulmonary hypertension (moderate in this case), an arrhythmia and/or blood pressure swings, vasovagal events, etc. In light of severity of disease and active CHF, this is the likely cause and aggressive lifelong cardiac supportive therapy is warranted as below. Sildenafil is not clearly warranted unless the episodes persist despite cardiac therapy. If they persist despite Sildenafil, further evaluation via ECG /holter monitoring are highly recommended. Additionally, if the cough persists despite normal breathing rates at home, highly recommend hydrocodone for QOL. Long term prognosis is guarded to poor, however most dogs are able to maintain a good QOL on medications for an average of 8- 12 months. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope, and/or sudden death in the future.

Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or worsening collapse episodes in the future.

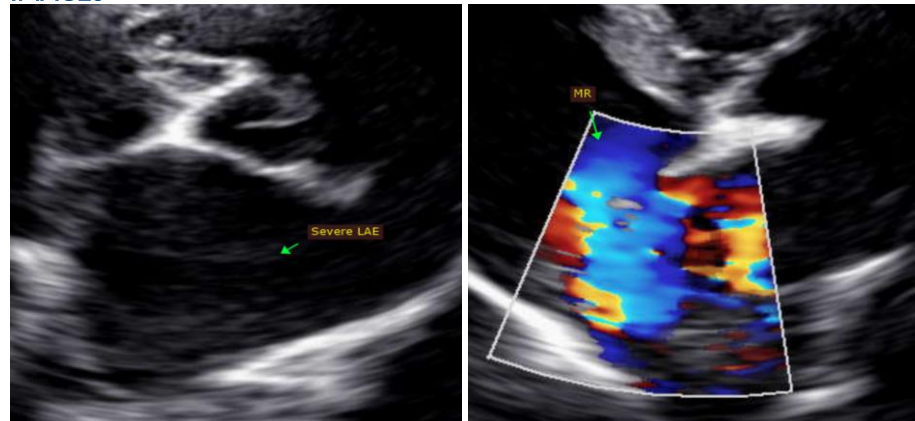
**PLAN**

Administer furosemide 1-2mg/kg PO q12h. Administer Pimobendan 0.3mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h. Baseline BP recommended.

Recheck renal panel and BP in 1-2 weeks. If BP>130mmHg, institute ACE-inhibitor Enalapril or Benazepril 0.5mg/kg PO q12h. If cough persists despite these changes, institute hydrocodone with homatropine 0.2-0.4mg/kg PO up to q4-6h PRN. If syncope persists with exertion, consider Sildenafil 1-2mg/kg PO q12h. \*If neurologic changes persist, further evaluation is recommended.

Monitor SRRs at home. Monitor renal values in 10-14 days, then every 3-4 months while on diuretics.

Recheck: Recommend conservative monitoring with a recheck echocardiogram in 4-6 months, sooner if any development of associated clinical signs occurs in the interim.

**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.

**SPECIES**

Canine

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.

**BREED**

Yorkie

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

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