



**PATIENT**

Archie Brancato

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Male Neutered

**AGE**

13.5 years

**WEIGHT**

15.2lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Rachel Runnells, RVT

**HOSPITAL NAME**

SVS Imaging KC

**REFERRING VET**

Dr. Renfro

**INVOICE**

23216

**DATE**

3/21/22

**PRESENTING CLINICAL SIGNS**

History: Recheck echo. Diagnosed with CHF in December and currently on Enalapril and Lasix. Starting the week of 3/14/22 he started having collapsing episodes. Tachycardic upon recent appointment.

-Sedation: Butorphanol.

-Pertinent previous echo findings (12/2021 MD): CVD B2/C. Moderate LAE, normal right heart.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Diffuse nodular thickening of mitral valve leaflets. Mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial enlargement. Normal MR velocity. Significant LV dilation with hyperdynamic myocardial function and evidence of volume overload. The tricuspid valve appears thickened with septal prolapse and mild tricuspid regurgitation. Velocity consistent with early 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. No effusions or 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	5.7	3.1	NM	2.8	70	96	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	140	1.0	0.95	9.1	3.5	3.6	1.4
*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. Significant left atrial and ventricular enlargement indicates there is an elevated risk for spontaneous congestive heart failure. Mild pulmonary hypertension is noted which should be monitored going forward. No obvious additional issues are noted.

Syncopal episodes in this patient are most likely cardiogenic in origin. Possible causes include poor forward blood flow leading to hypoxia, early CHF, significant pulmonary hypertension (not seen), an arrhythmia, vaso-vagal events, and/or blood pressure swings. In light of severity of disease on

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echocardiogram, early recurrent CHF is possible and even without respiratory signs full lifelong cardiac supportive therapy is warranted as below. Dosages are not provided and Pimobendan is not listed, and further information is advised to make accurate recommendations. If the episodes persist in the future despite therapy as below, further evaluation such as a holter monitor may be warranted. Once in CHF, 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, malignant arrhythmias, LA tear 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.

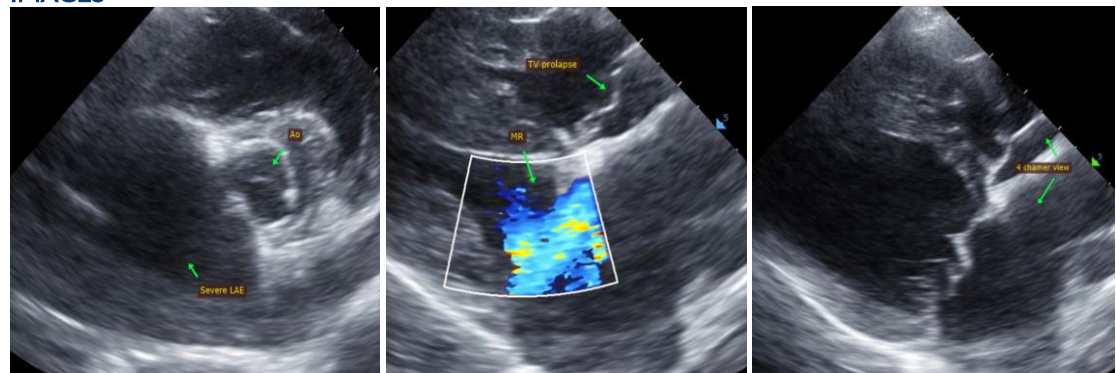
Elective anesthesia is not advised.

**PLAN**

Administer Lasix to 1-2mg/kg PO q12h. Administer Pimobendan 0.3mg/kg PO q12h. Administer Spironolactone 1-2mg/kg PO q12h. A baseline BP is recommended and Enalapril should be continued 0.5mg/kg PO q12h, if BP is >130mmHg otherwise discontinue. If episodes persist, further evaluation is recommended through a holter monitor.

Recheck renal values and BP in 1-2 weeks then every 3-4 months while on diuretics.

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

**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. 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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