



**PATIENT**

Max Lauri

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Male Neutered

**AGE**

13 years

**WEIGHT**

21lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Jessica Miller

**HOSPITAL NAME**

Marsh Animal  
Hospital

**REFERRING VET**

Dr. Milwiski

**INVOICE**

30317

**DATE**

4/18/23

**PRESENTING CLINICAL SIGNS**

History: Recheck echo.  
-Current medications: Vetmedin 2.5mg BID.  
-Pertinent previous echo findings (4/2022 EL): LA/AO: 1.4, LV: 2.9

**RADIOGRAPHIC FINDINGS** \*NOTE: Images submitted for supplemental cardiac information only.  
Mild cardiomegaly. No obvious evidence of CHF.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets (anterior>posterior) with mild prolapse into the left atrial lumen. Moderate to severe eccentric mitral regurgitation with moderate left atrial dilation. Normal MR velocity. Mildly increased LV diameter with hyperdynamic myocardial function. The tricuspid valve appears subjectively normal, with mild to moderate tricuspid regurgitation. Velocity consistent with early pulmonary hypertension. Normal right atrial and ventricular diameter. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors observed.

**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)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
<b>PATIENT</b>	5.7	3.2	1.4	1.9	38	69	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)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
<b>PATIENT</b>	150	1.0	1.1	9.5	2.7	3.1	1.9
<b>*Normal chamber parameters expressed as a mean value (SD)</b>				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 moderate to severe mitral and mild to moderate tricuspid regurgitation. Moderate left atrial enlargement indicates there is relatively low risk for imminent complication, however risk for progression to spontaneous congestive heart failure in



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the future is elevated. No additional issues are identified. Compared to the prior study, there is evidence of mild progression in both left heart dimensions and pulmonary pressures.

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Given these findings, reasonable to continue in this patient going forward. Additionally, a baseline BP is recommended with institution of an ACE-I if >150mmHg. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (B2).

**BREED**

Shih Tzu

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a progressive cough, labored breathing, exercise intolerance or collapse episodes.

**SEX**

Male Neutered

Anesthetic risk is considered mildly elevated. Cardiac protective drug choices (opioid/benzodiazepine premedication, Propofol or alfaxalone induction, iso or sevo gas) are recommended. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Judicious IV fluid rates are recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

**AGE**

13 years

**PLAN**

Continue Pimobendan 0.25-0.3mg/kg PO q12h. Baseline BP recommended, if >150mmHg, institute ACE-I 0.5mg/kg PO q12h.

**WEIGHT**

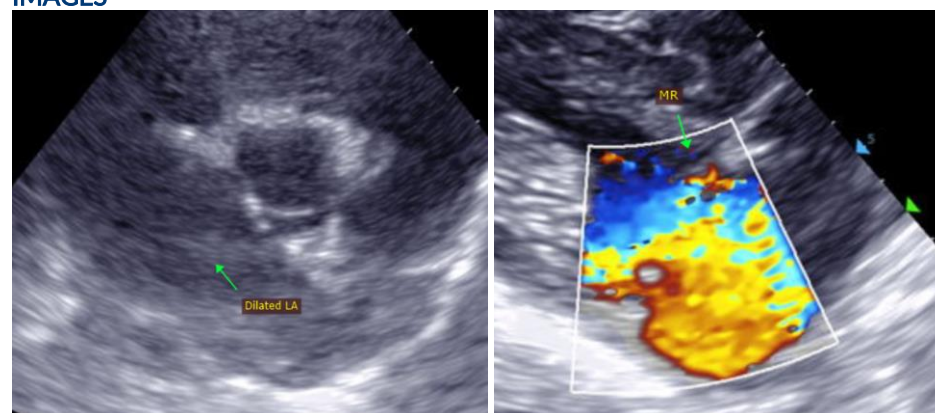
21lbs

Recommend monitor for progression with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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**IMAGES**



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Jessica Miller

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Dr. Milwiski

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. 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.

**DATE**

4/18/23

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