
**PATIENT**

Hillary Muir

**PRESENTING CLINICAL SIGNS**

History: Grade 4-5/6 heart murmur. Mild wheezes with slight abdominal breathing, very thin. Lactate high on bloodwork. Elevated BUN and Creatinine.

**SPECIES**

Canine

-Current medications: Furosemide, Vetmedin.  
 -Radiographs: Showed diffuse interstitial pattern in caudodorsal fields. Cardiac waist lost, trachea slightly dorsally displaced, heart appears normal in size. Possible bulge in left atrium.

**BREED**

Shih Tzu

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets (anterior>posterior) with marked prolapse into the left atrial lumen. Moderate 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 trace tricuspid regurgitation. 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.

**AGE**

14 years

**CARDIAC CHART**
**WEIGHT**

7.3lbs

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	4.5	NM	1.8	1.8	52	90	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	101	1.4	0.9	3.3	1.8	2.1	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)

**INTERPRETED BY**

 Maggie Machen Lamy,  
 DVM DACVIM  
 (Cardiology)

**IMAGING PERFORMED BY**

Crystal Hill, RVT

**HOSPITAL NAME**

 Chippawa Animal  
 Hospital

**REFERRING VET**

Dr. Dowell

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Chronic degenerative valve disease causing moderate mitral and trace 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 the future is elevated. No additional issues are identified.

**INVOICE**

21404

**DATE**

10/6/21

Given the risk for progression and results of the EPIC trial, Pimobendan is indicated in this patient as below. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (B2).



**PATIENT**

Hillary Muir

More information is necessary to determine the cause of respiratory signs. The chest radiograph evaluation does not mention congestive heart failure; however, the patient is on Furosemide. Highly recommend a Radiologist review of the films as this breed is predisposed to primary airway disease as well. Ideally, given azotemia Lasix should be discontinued; however, further information is needed to make this decision.

**SPECIES**

Canine

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.

**BREED**

Shih Tzu

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.

**SEX**

Female Spayed

**AGE**

14 years

**PLAN**

Continue Pimobendan 0.3mg/kg PO q12h. Consider hydrocodone if needed for mechanical cough. Highly recommend Radiologist review of the films to determine if Lasix can safely be discontinued.

**WEIGHT**

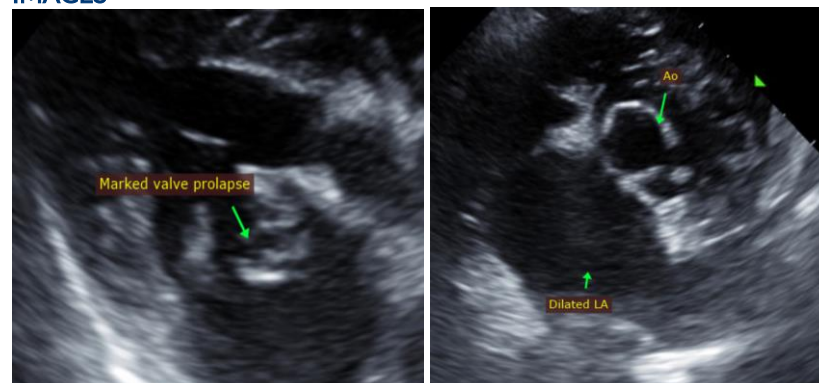
7.3lbs

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

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM DACVIM  
(Cardiology)

**IMAGES**



**IMAGING PERFORMED BY**

Crystal Hill, RVT

**HOSPITAL NAME**

Chippawa Animal  
Hospital

**REFERRING VET**

Dr. Dowell

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**

21404

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**

10/6/21

Maggie Machen Lamy, DVM  
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