



**PATIENT PRESENTING CLINICAL SIGNS**

Choxee Dory  
History: Grade 4/6 heart murmur. Coughing.  
-CXR: Concern for CHF.  
-Current medication: Lasix 12.5mg, Vetmedin 2.5mg.

**SPECIES RADIOGRAPHIC FINDINGS** \*NOTE: Images submitted for supplemental cardiac information only.  
Canine A single lateral film is included. Mild cardiomegaly. No obvious evidence of CHF.

**BREED ECHOCARDIOGRAM FINDINGS**

Shih Tzu Mix 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 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 velocity. 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 CARDIAC CHART**

	<b>CANINE CARDIAC PARAMETERS</b>	<b>MR VMAX</b> (m/s)	<b>TR VMAX</b> (m/s)	<b>LA/AO</b> (Boon method)	<b>LA/AO</b> (Heart Base; Swe)	<b>FS</b> (%)	<b>EF</b> (%)	<b>EPSS</b> (cm)
16 years	<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
	<b>PATIENT</b>	5.5	2.3	NM	1.8	63	92	NM
	<b>CANINE CARDIAC PARAMETERS</b>	<b>HR</b> (BP M)	<b>AV VMAX</b> (m/s)	<b>PV MAX</b> (m/s)	<b>BODY WEIGHT</b> (kg)	<b>LA</b> 2D short axis Base view (cm)	<b>LVIDd</b> Avg; 2D and m-mode short axis (cm)	<b>LVIDs</b> 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	1.5	1.5	7.4	2.4	3.2	1.2
	*Normal chamber parameters expressed as a mean value				3	1.27	2.46	1.36
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>								
	*Note: All measurements based upon multi-modal images and methods. An average value is reported.							
	Adapted from June Boon, Veterinary Echocardiography, 1998							
	Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435							
	Hansson et al, Vet Rad and Ultrasound 2002							
	Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995							
					5	1.40	2.74	1.60
					10	1.50	3.27	2.06
					15	1.83	3.71	2.43
					20	2.02	4.14	2.80
					25	2.18	4.48	3.10
					30	2.33	4.83	3.39
					35	2.48	5.17	3.69
					40	2.62	5.48	3.96
					50	2.88	6.07	4.46

**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**

30314

**DATE**

4/18/23

**INTERPRETED BY**  
Maggie Machen  
Lamy, DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

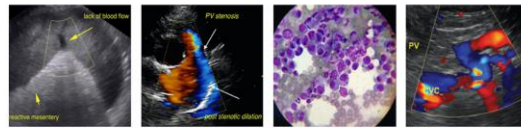
Rebekah Jakum, CVT  
ARDMS/RVT

**HOSPITAL NAME**

Pocono Peak VC

**REFERRING VET**

Dr. Thompson



**PATIENT**

Given these findings, continued 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).  
Choxee Dory

**SPECIES**

Canine

While mainstem bronchi compression may certainly be contributing to a chronic increase in coughing, other primary airway contributions should also be considered (tracheal collapse, COPD/chronic bronchitis, etc.). Consider hydrocodone for any mechanical component due to cardiomegaly. A full set of screening chest radiographs are recommended, as a single view is difficult to evaluate accurately. That being said, based upon these findings in addition to what is available, CHF is considered unlikely. Lasix can likely be safely discontinued, pending further Radiologist evaluation.

**BREED**

Shih Tzu Mix

**SEX**

Male Neutered

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.

**AGE**

16 years

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.

**WEIGHT**

16.3lbs

**PLAN**

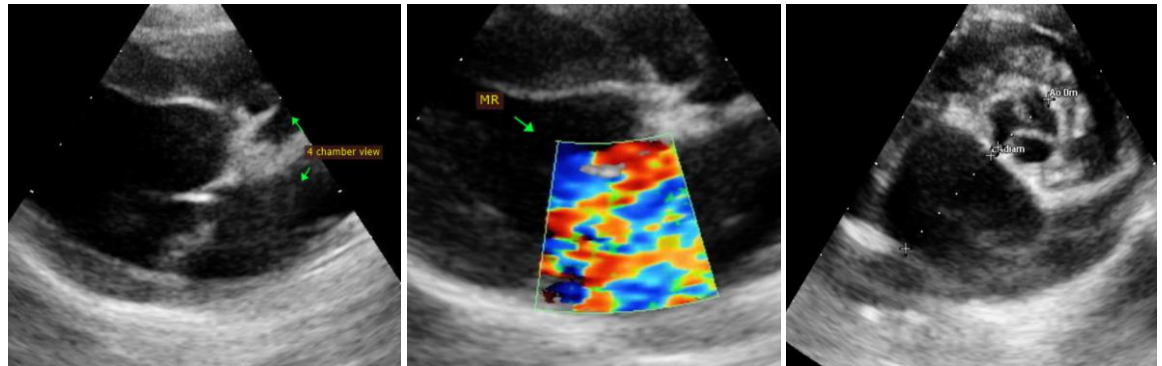
Baseline BP recommended. Continue Pimobendan 0.3mg/kg PO q12h. Consider hydrocodone as discussed. Recommend 3-view chest radiographs with a Radiologist review. Assuming CHF is ruled out, Lasix can be safely discontinued.

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM, DACVIM  
(Cardiology)

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

**IMAGES**



**IMAGING PERFORMED BY**

Rebekah Jakum, CVT  
ARDMS/RVT

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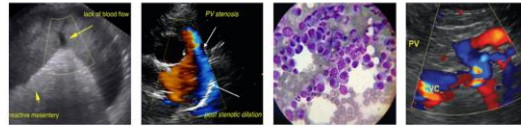
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The information and recommendations provided are based on the images presented by the referring



**PATIENT** veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Choxee Dory

**SPECIES**

Canine

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**BREED**

Shih Tzu Mix

**SEX**

Male Neutered

**AGE**

16 years

**WEIGHT**

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