



**PATIENT**

Rags Long

**SPECIES**

Canine

**BREED**

Airedale Terrier

**SEX**

Female Spayed

**AGE**

9 years

**WEIGHT**

68lbs; 30.8kgs

**INTERPRETED BY**

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Melissa Weisman, DVM

**HOSPITAL NAME**

Minnesota Veterinary Ultrasound

**REFERRING VET**

Dr. Weisman

**INVOICE**

30487

**DATE**

4/27/23

**PRESENTING CLINICAL SIGNS**

History: Recheck echo. Erratic heartbeat. Heart murmur, grade 4/6. Asymptomatic.  
 -Current medications: Glucosamine powder, Vetmedin 10mg BID, Thyrozine 0.5mg BID, Carprofen 75mg BID.  
 -Pertinent previous echo findings (6/2022 MVU): CVD B2. LA/AO: 1.7, LV: 5.4. Small AI.

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

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with minimal prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. The MR velocity is normal. Severe left atrial enlargement. There is moderate left ventricular dilation with mildly depressed myocardial function and evidence of volume overload. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. The main pulmonary artery is normal. Mild right atrial and right ventricular dilation. The tricuspid valve is thickened with mild to moderate tricuspid regurgitation. Normal velocity. No pulmonic insufficiency. Trace aortic insufficiency. Scant pericardial effusion in some views, although the finding is inconsistent. No pleural effusion or cardiac masses are seen.

**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>	4.8	2.2	NM	2.5	31	60	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>	NM	1.2	1.1	30.8	5.5	6.1	4.2
*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 persists with evidence of progression. Severe mitral and mild to moderate tricuspid regurgitation are identified with progressive LA and LV enlargement. The small aortic insufficiency is similar to previous; however, lifelong BP monitoring is advised. Scant pericardial effusion is noted, which is of concern in a patient with severe disease. Finally, the underlying rhythm is highly irregular with periods of tachycardia. **Follow up and treatment of the rhythm should be dictated by the ECG report.**



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Given the severity of the findings and scant pericardial effusion, early congestive heart failure is suspected and full medications are recommended as below including low dose Lasix therapy. Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Cough suppression to improve QOL can also be considered (hydrocodone, 0.2-0.4mg/kg up to q4-6h PRN) for any residual mechanical cough in the face of normal sleeping respiratory rates. The average survival time of canine patients with active pulmonary edema is 8-9 months on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for acute progression of the cough, labored breathing, exercise intolerance or collapse episodes in the future.

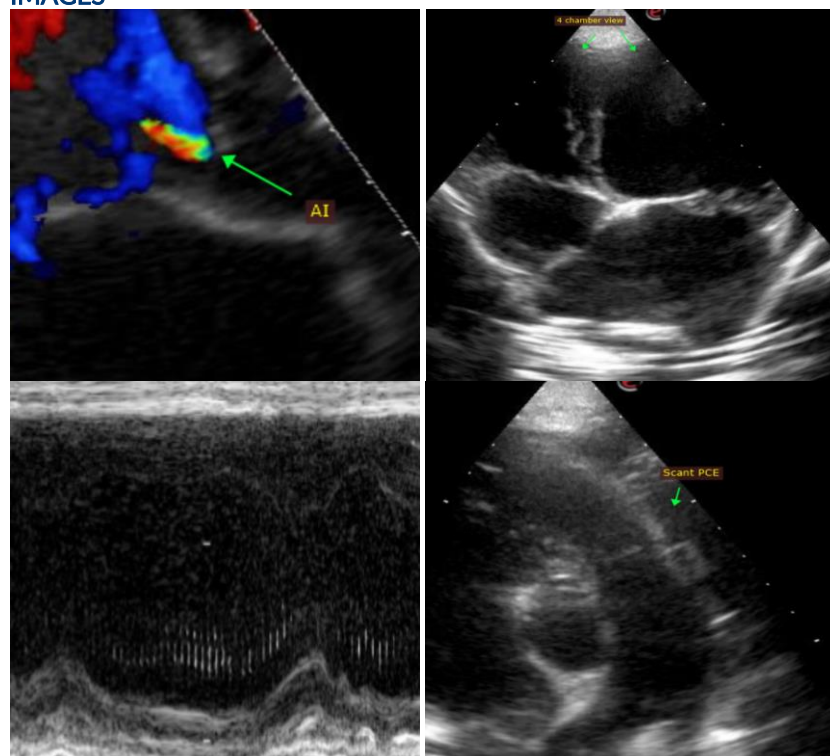
## PLAN

Treatment of the arrhythmia should be dictated by ECG evaluation. Administer Pimobendan 0.3mg/kg PO q12h. Institute low dose Furosemide 1mg/kg PO q12h. Institute Spironolactone 1-2mg/kg PO q12h.

Monitor SRRs at home. Monitor renal values and BP in 10-14 days, then every 3-4 months while on diuretics. If doing well and BP >130mmHg, institute ACEI 0.5mg/kg PO q12h. Consider hydrocodone if needed for QOL.

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

## IMAGES





**PATIENT**

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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.

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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.

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

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