



**PATIENT**

Riot Anli

**SPECIES**

Canine

**BREED**

Miniature Pinscher

**SEX**

Female Spayed

**AGE**

12 years

**WEIGHT**

6.6lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

C. Belan, DVM

**HOSPITAL NAME**

Signal Hill Animal  
Hospital

**REFERRING VET**

Dr. Belan

**INVOICE**

20528

**DATE**

8/12/21

**PRESENTING CLINICAL SIGNS**

History: Patient presented 48 hours ago mouth breathing and crackles in both lungs. 4/6 grade heart murmur, VHS 11.9. Slow sometimes irregular heart rate. Patient bradycardic. Placed on 1mg/kg Lasix since Tuesday. Patient remains dyspneic during the exam.

-Sedation: Patient was sedated .2mg/kg.

**RADIOGRAPHIC FINDINGS** \*NOTE: Images submitted for supplemental cardiac information only.

Cardiomegaly with LA enlargement. Diffuse bronchointerstitial pattern.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets (anterior>posterior) with minimal prolapse into the left atrial lumen. Mild to moderate eccentric mitral regurgitation with moderate left atrial dilation. Normal MR velocity. Borderline LV diameter with adequate myocardial function. The tricuspid valve appears subjectively normal, with no 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 and mild 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>	5.1	NA	1.6	1.75	43	76	0.3
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>	67	1.1	0.95	3.0	2.1	2.7	1.5
*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)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Chronic degenerative valve disease causing mild to moderate regurgitation. Moderate left atrial enlargement indicates the risk for spontaneous congestive heart failure is relatively low yet may



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be elevated going forward. No additional issues such as pulmonary hypertension or systolic dysfunction are noted.

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The radiographs are difficult to extensively interpret in this format; however, CHF is considered less likely to be the cause of the current clinical signs based upon their appearance. This is based not only on the radiographic appearance but the finding of only moderate LA enlargement, persistent with respiratory issues despite Lasix therapy and a slow heart rate on exam (67bpm).

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This likely reflects a respiratory sinus arrhythmia although this should be confirmed on an ECG. This occurs due to high vagal tone which is common with respiratory disease. Highly recommend a Radiologist review of the films in light of echo findings. CHF is a radiographic diagnosis that can only be supported by ultrasound. If CHF is still suspected or the patient does/did respond to Lasix, then this can be continued lifelong. Regardless, Pimobendan is recommended in this patient going forward. Further respiratory treatment/workup is likely indicated.

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Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future. Serial monitoring of SRRs is recommended as the best way to screen for progression to CHF at home.

**WEIGHT**

6.6lbs

**PLAN**

Highly recommend Radiologist review of the films in light of echo findings to determine if Lasix should be continued. Recommend Pimobendan 0.3mg/kg PO q12h. If Lasix is continued, an ACEI should also be administered 0.5mg/kg PO q12h. Consider further respiratory evaluation/treatment such as Theophylline, course of antibiotic, etc.

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A recheck renal panel is recommended every 3-4 months lifelong if Lasix is continued.

**IMAGING PERFORMED BY**

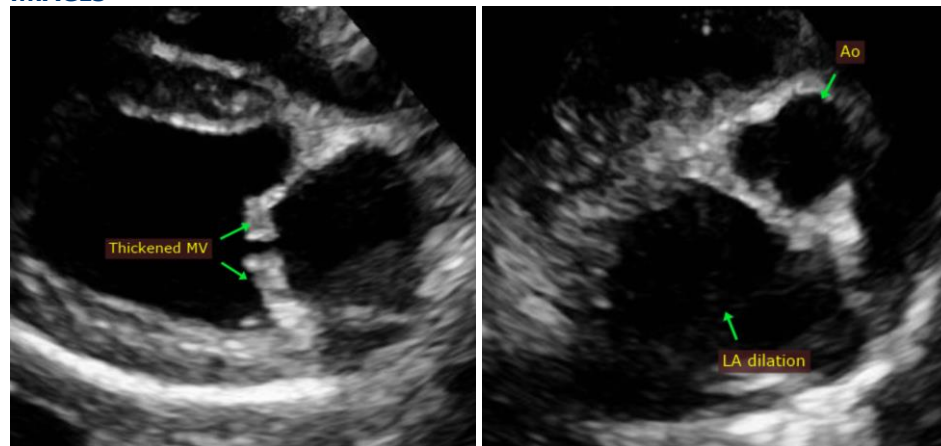
C. Belan, DVM

A recheck BP and echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs arise.

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**IMAGES**



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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**

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