



**PATIENT**

Herb Hughes

**PRESENTING CLINICAL SIGNS**

History: Grade 3/6 heart murmur. Hypertension.  
-Current medications: Vetmedin, Amlodipine, Spironolactone.

**SPECIES**

Canine

**ELECTROCARDIOGRAPHIC FINDINGS**

A six lead ECG is available at 25mm/s; 0mm/mV. The average heart rate is 120bpm with a largely regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. Rare single APCs are identified. No VPCs, pauses or other dysrhythmias observed.  
ECG diagnosis: Normal sinus rhythm with isolated APCs.

**BREED**

Cavalier

**SEX**

Male Neutered

**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 eccentric mitral regurgitation with mild left atrial dilation. Borderline LV diameter with adequate myocardial function. The tricuspid valve appears normal, with trace tricuspid regurgitation. Borderline 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**

10 years

**WEIGHT**

30lbs

**CARDIAC CHART**

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

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>	NM	3.0	NM	1.5	60	90	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>	NM	1.6	0.92	13.6	2.3	3.6	1.4
*Normal chamber parameters expressed as a mean value (SD)							
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>							
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>							
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	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)			
	10	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)			
	15	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)			
	20	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)			
	25	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)			
	30	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)			
	35	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)			
	40	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)			
	45	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)			

**HOSPITAL NAME**

Eubank Animal Clinic

**REFERRING VET**

Dr. Kincade

**INVOICE**

31308

**DATE**

6/13/23

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Chronic degenerative valve disease causing moderate mitral and trace tricuspid regurgitation. Mild left atrial enlargement indicates there is relatively low risk for complication at this time. No additional issues are identified.



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Although this patient is borderline for its use, continuing Pimobendan is reasonable as this can decrease cardiac chamber dimensions. No obvious indication for additional medications. If Spironolactone is being given for heart disease, this can be discontinued. Amlodipine should be administered as dictated by BP assessment. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (B1/B2).

**SPECIES**

Canine

The ECG is largely normal with isolated APCs seen throughout. These likely secondary to atrial dilation and stress in a patient in hospital. What is seen here does not warrant therapy as only single abnormal beats are identified. Simple follow up is recommended.

**BREED**

Cavalier

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**

10 years

**WEIGHT**

30lbs

**PLAN**

Baseline BP is recommended every 6 months. Continue Pimobendan 0.25-0.3mg/kg PO q12h. From a cardiac standpoint, there is no indication for Spironolactone.

**INTERPRETED BY**

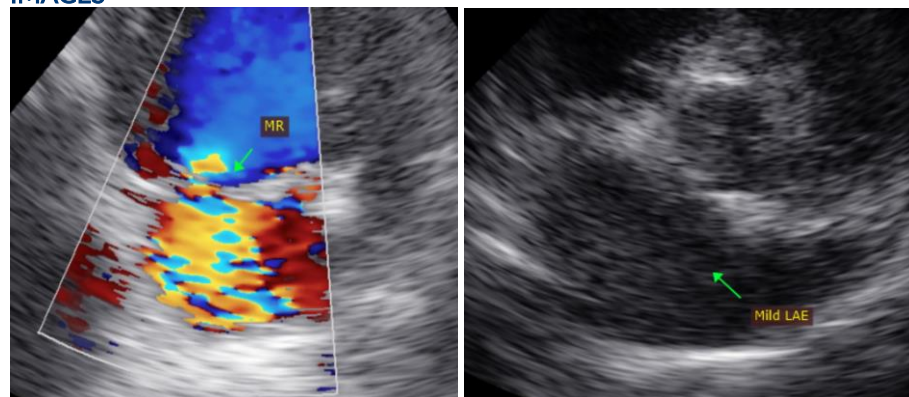
Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

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

**IMAGING PERFORMED BY**

Dana Alterman,  
RDCS, LVT

**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.

**SPECIES**

Canine

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.

**BREED**

Cavalier

**Maggie Machen Lamy, DVM**  
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**SEX**

Male Neutered

**AGE**

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