**PATIENT**

Buttercup Watts

**PRESENTING CLINICAL SIGNS**

History: History of mastectomy at other vet hospital. Noted to have heart murmur.  
 -Pertinent abnormal PE/Chem/CBC/UA Results: BUN: 38, Creat: 1.2, HCT: 60, T4: WNL.  
 -Current medications: Galliprant-20mg 1 SID.  
 -Blood pressure: 213, 212, 200mmHg.  
 -Sedation used: Not needed.  
 -STAT: Not requested.

**SPECIES**

Canine

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

**BREED**

Beagle

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Mild to moderate eccentric mitral regurgitation with mild left atrial dilation. Elevated MR velocity. Normal LV diameter with adequate myocardial function. Mild LV hypertrophy (0.95cm globally). Normal LVOT velocity with laminar flow. Dilated aortic root. The tricuspid valve appears thickened with mild tricuspid regurgitation. Normal TR velocity. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic valve is normal in morphology and mobility. Normal pulmonic outflow velocities with laminar flow. Trace aortic insufficiency. No pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

**AGE**

9 years

**CARDIAC CHART****WEIGHT**

35lbs

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	6.5	2.5	NM	1.2	34	64	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)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	146	1.4	1.0	15.9	2.6	3.6	2.4
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				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)

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

**INTERPRETED BY**

Maggie Machen  
 Lamy, DVM, DACVIM  
 (Cardiology)

**HOSPITAL NAME**

Alexander Animal  
 Hospital

**REFERRING VET**

Dr. Alexander

**INVOICE**

20988

**DATE**

9/13/21

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing mild to moderate mitral and mild tricuspid regurgitation. Mild left atrial enlargement indicates the current risk for complication is low. More importantly markers of systemic hypertension are seen, including mild LV hypertrophy, an aortic leak and a dilated aortic root. Based upon these findings in addition to the reported blood pressure, recommend institute Amlodipine to effect. Target BP <160mmHg. Screening for underlying causes of high blood pressure is recommended (renal disease, adrenal tumor, etc.).

Possible causes for the episodes remain open, without a suspected cardiac contribution. Systemic hypertension may be related; however, further systemic/neurologic evaluation is recommended.

No cardiac medications are specially indicated. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage (B1). Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

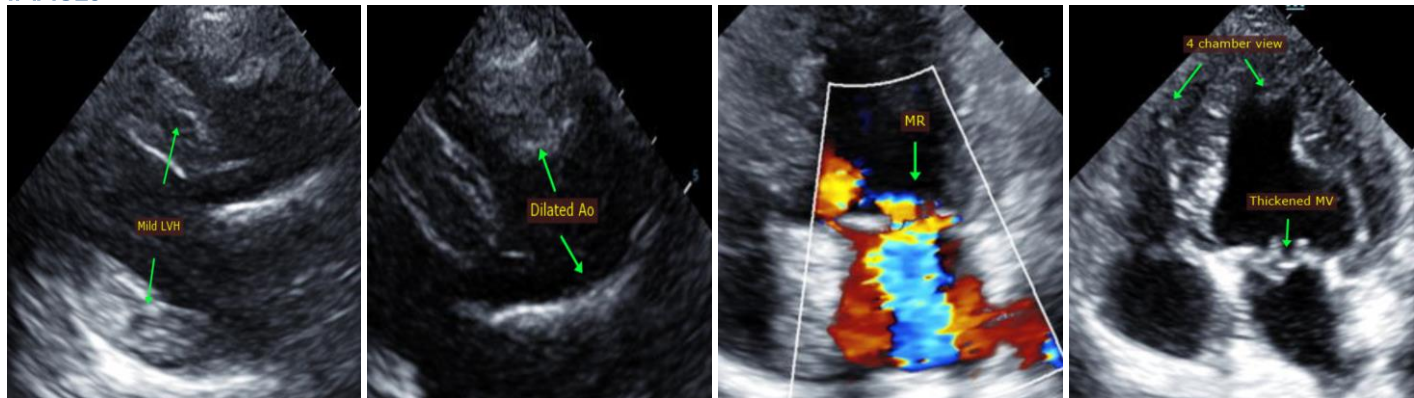
Anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

## PLAN

Institute Amlodipine to effect as discussed. Consider an Internal Medicine consult if needed.

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs

## IMAGES



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.

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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