

**PATIENT**

Belle Campbell

**SPECIES**

Canine

**BREED**

Maltese Mix

**SEX**

Female

**AGE**

1.1.10

**WEIGHT**

11.3lbs

**PRESENTING CLINICAL SIGNS**

History: Recheck echo prior to anesthesia. Grade III/VI murmur.

-Pertinent abnormal PE/Chem/CBC/UA Results: Most recent urinalysis: cysto, usg 1.024, pH 5.0, + protein, + ketones, + blood, 3wbc/hpf, 6rbc/hpf, suspect presence of cocci bacteria (confirmed false), 3-5 non-squamous cells/hpf, >1 non-hyaline cast/hpf. Bladder stone measuring approximately 0.84cm x 0.6cm x 0.81cm .

-Current medications: Pimobendan 2.5mg: 1/2 PO BID since May 2022

-Sedation used: Not required to complete full diagnostic ultrasound.

-Pertinent previous ultrasound results (5/2022 MML): Moderate MR, moderate LAE, no TR, mild AI. LA: 1.9, LV: 2.7.

-STAT: Not requested.

-Imaging performed by: Stephanie Warga RDCS, RVT.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets (anterior>posterior) with no significant prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with moderate left atrial dilation. Normal MR velocity. Borderline LV diameter with hyperdynamic myocardial function. The tricuspid valve appears subjectively normal with trace tricuspid regurgitation. Velocity consistent with mild pulmonary hypertension. Normal right atrial and ventricular diameter. The pulmonic and aortic valve is mildly thickened with normal mobility. Normal pulmonic and aortic outflow velocities. Mild AI; no pulmonic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors observed.

**CARDIAC CHART****INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**HOSPITAL NAME**

Perry Hall Animal  
Hospital

**REFERRING VET**

Dr. Breidenbaugh

**INVOICE**

26701

**DATE**

10.4.22

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	6.6	3.2	NM	1.8	57	88	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	120	1.2	0.8	5.1	2.0	2.6	1.1
*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)

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

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease persists with evidence of stability. Moderate mitral regurgitation is similar to previous without progressive left or right heart enlargement. A small tricuspid leak has developed with evidence of mild pulmonary hypertension. This is of unknown significance in a dog without respiratory disease. No additional issues are identified.

Given these findings, continue Pimobendan is recommended as below. Continued assessment of progression in the future will help predict long term outcome; however, prognosis is guarded at this stage (B2).

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.

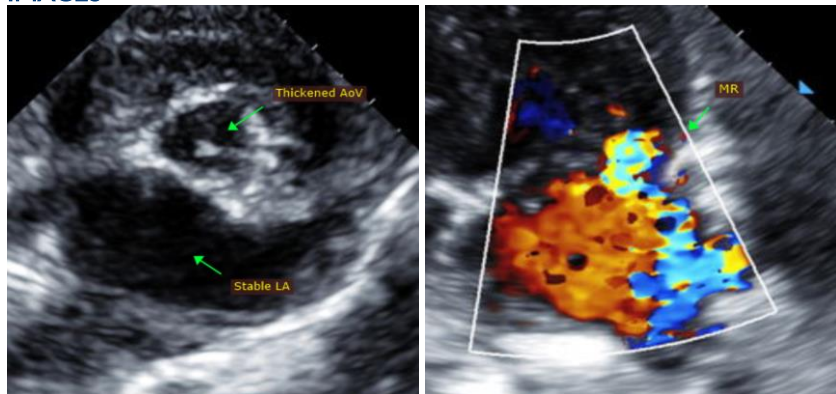
Anesthetic risk is considered mildly elevated. Cardiac protective drug choices (opioid/benzodiazepine premedication, Propofol or alfaxalone induction, iso or sevo gas) are recommended. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Judicious IV fluid rates are recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

## PLAN

Baseline BP recommended every 6 months. Continue Pimobendan 0.25-0.3mg/kg PO q12h.

Recommend monitor for progression 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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