



**PATIENT**

Baby Hall

**SPECIES**

Canine

**BREED**

Pomeranian

**SEX**

Female Intact

**AGE**

12 years

**WEIGHT**

6.13lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Mass Veterinary Services

**REFERRING VET**

Dr. Masloski

**INVOICE**

25284

**DATE**

7/13/22

**PRESENTING CLINICAL SIGNS**

History: Baby was noted to have a heart murmur in June. She was seen at her primary ~ 2 weeks ago for coughing. The family started Pimobendan and Lasix (dosage unknown) since the other dog in house has CVD and is on those medications. The coughing has resolved with the medications. Good appetite and normal activity level. On exam: NSR, grade IV/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear. BP: 140mmHg x 4. \*Sedated with propofol for study.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and Doppler imaging is available.

**Left ventricle:** The LV diameter is borderline with adequate myocardial function. LV wall thicknesses are normal.

**Left atrium:** The left atrium is mildly dilated.

**Mitral valve:** The mitral valve is diffusely thickened with marked prolapse into the left atrial lumen. Mild to moderate eccentric mitral regurgitation with a normal velocity.

**Aortic valve/aorta:** The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.

**Right ventricle:** Normal right ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension.

**Right atrium:** Normal RA dimension.

**Tricuspid valve:** The tricuspid valve appears thickened with mild tricuspid regurgitation; normal velocity.

**Pulmonic valve/pulmonary artery:** The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow.

**Pericardium/other:** No pericardial or pleural effusion noted. No obvious cardiac masses.

**Heart rhythm:** ECG reveals a sinus rhythm with an average HR of 130bpm.

**2-Dimensional Measurements**

Ao diam (cm)	1.2
LA diam (cm)	1.6
LA:Ao (Swe)	1.35
IVS thickness (cm)	0.5
LVID diastole (cm)	2.0
PW thickness (cm)	0.5
LVID systole (cm)	0.8
FS (%)	60

**Doppler Measurements**

PV Vmax (m/s)	0.7
AoV Vmax (m/s)	1.1
MR Vmax (m/s)	4.5
TR Vmax (m/s)	2.5
TR PG (mmHg)	25

**INTERPRETATION OF THE FINDINGS**

The cause of the murmur is chronic degenerative valve disease causing mild to moderate mitral and mild tricuspid regurgitation. Lack of significant left atrial enlargement indicates the current risk for complication is low. No concurrent issues such as pulmonary hypertension are noted in this study.

Given these findings, the cough is unlikely to be cardiac in origin and primary respiratory causes should be considered. Lasix can be safely discontinued, as improvement is likely either coincidental or due to a decrease in secretions. Consider further respiratory work up/treatment (hydrocodone, taper course of steroids, Enrofloxacin, TTW/BAL, etc.).



**PATIENT**

Baby Hall

With mild disease seen here, no indication for continued Pimobendan therapy. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage (B1).

**SPECIES**

Canine

**RECOMMENDATIONS**

- No cardiac medications are clearly indicated and Lasix/Pimobendan can be safely discontinued.
- Further cough evaluation/treatment if the symptom returns (CXR, hydrocodone, etc).
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- 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.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

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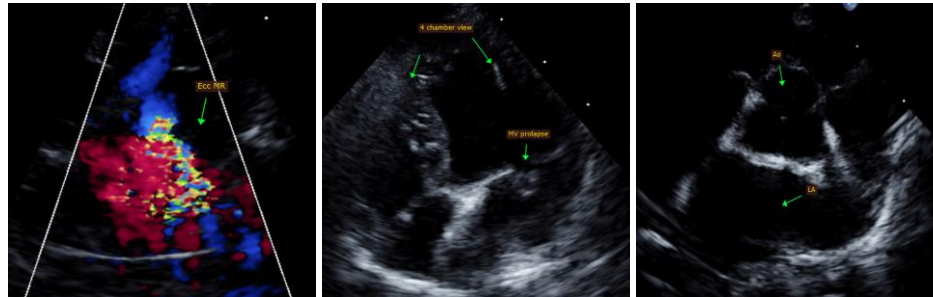
**PLAN**

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

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DACVIM (Cardiology)

**IMAGES**



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Mass Veterinary Services

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.

**REFERRING VET**

Dr. Masloski

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.

**INVOICE**

25284

Maggie Machen Lamy, DVM

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**DATE**

7/13/22

**Echocardiogram performed by:**

Pamela Harrigan, RDCS

Pet Animal Ultrasound Service (4paus.com)