



**PATIENT PRESENTING CLINICAL SIGNS**

Dino Taylor

**SPECIES**

Canine

**BREED**

Pomeranian

**SEX**

Male Neutered

**AGE**

12 years

**WEIGHT**

14.25lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Mass Veterinary Services

**REFERRING VET**

Dr. Masloski

**INVOICE**

30445

**DATE**

4/26/23

History: Dino was noted to have a heart murmur in December 2021. He was seen in February for a cough and started on Pimobendan and Lasix . He is doing a bit better on the medications with no coughing or labored breathing noted. His appetite has decreased a bit. His activity level remains normal. On exam: NSR, grade IV/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear, mm pink, moist, CRT<2. BP 190mmHg x 4. Current medications: 1) Pimobendan/vetmedin 5mg 1 tab in am with 2 tabs in pm 2) Lasix/furosemide 12.5mg 2 tabs twice a day 3) Denamarin daily \*No sedation for study.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and Doppler imaging is available.  
**Left ventricle:** LV is dilated with hyperdynamic myocardial function. Increased sphericity.  
**Left atrium:** The left atrium is moderate to severely dilated.  
**Mitral valve:** Significant thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation, 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:** RV dimension and morphology are normal.  
**Right atrium:** Normal RA dilation.  
**Tricuspid valve:** The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. TR velocity is normal.  
**Pulmonic valve/Pulmonary artery:** The pulmonic valve is normal in morphology and mobility. Normal pulmonic outflow velocities. No pulmonic insufficiency.  
**Pericardium/other:** No pericardial or pleural effusion noted. No obvious cardiac masses.  
**Heart rhythm:** ECG reveals a sinus rhythm with an average HR of 125bpm.

**2-Dimensional Measurements**

Ao diam (cm)	1.5
LA diam (cm)	2.9
LA:Ao (Swe)	1.9
IVS thickness (cm)	0.7
LVID diastole (cm)	3.3
PW thickness (cm)	0.7
LVID systole (cm)	1.5
FS (%)	54

**Doppler Measurements**

PV Vmax (m/s)	1.0
AoV Vmax (m/s)	1.6
MR Vmax (m/s)	5.6
TR Vmax (m/s)	2.6
TR PG (mmHg)	27

**INTERPRETATION OF THE FINDINGS**

The murmur is due to chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Moderate to severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated going forward. No additional issues such as pulmonary hypertension or systolic dysfunction are noted.

A cough in this patient with this degree of heart disease is likely multi-factorial in origin, including mainstem bronchi compression and/or potentially some degree of upper or lower airway disease given the breed. The prior diagnosis of CHF should be confirmed to determine if Lasix is truly warranted. If indicated the dose is extremely high and should be adjusted as able. Recommend institute additional cardiac supportive medications including a weak diuretic (Spironolactone). Pending response, cough suppression (up to q4-6 hours)



**PATIENT**  
Dino Taylor

may also be helpful for mechanical cough. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.

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Long term prognosis is guarded; however, I am hopeful we can stabilize the patient for some time on medications. Once CHF develops, they are generally able to maintain a good quality of life for an average of 8-12 months. Patient will always be at risk for progression to CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

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Pomeranian

**RECOMMENDATIONS**

- Highly recommended confirm if CHF was truly present through chest radiographs, response to medication, etc. If suspected continue Lasix at 12.5mg PO q12h.
- Institute ACE-I (benazepril or enalapril) 0.5mg/kg PO q12h.
- Continue Pimobendan at more appropriate dose: administer 2.5mg PO q12h.(recommended compounded unflavored version).
- Institute Spironolactone 1-2mg/kg PO q12h.
- Consider hydrocodone with homatropine for QOL (0.2-0.4mg/kg PO up to q4-6 hours PRN for cough; available in 5/1.5mg tabs and 5mg/5ml liquid suspension).
- Elective anesthesia is not advised.
- 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. Monitoring of sleeping breathing rates is the best way to screen for progression to CHF at home.

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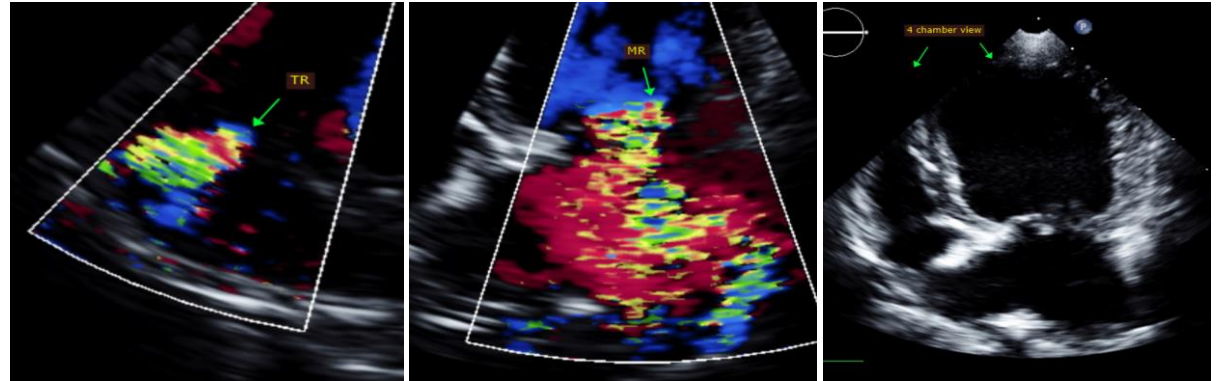
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**PLAN**

- A renal panel and BP are recommended in 1-2 weeks, then every 3-4 months lifelong. If BP is persistently elevated consider additionally vasodilator therapy.
- A recheck echocardiogram is recommended in 4-6 months to screen for progression, sooner if clinical signs arise.

**IMAGING PERFORMED BY**  
Pamela Harrigan,  
RDCS

**IMAGES**



**HOSPITAL NAME**  
Mass Veterinary Services

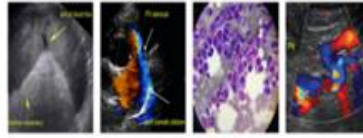
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

**BREED**  
Pomeranian

Maggie Machen Lamy, DVM  
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)  
info@sonopath.com

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**Echocardiogram performed by:** Pamela Harrigan, RDCS  
Pet Animal Ultrasound Service (4paus.com)

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