



**PATIENT**

Boomer Lapinsky

**SPECIES**

Canine

**BREED**

Beagle

**SEX**

Male Neutered

**AGE**

13 years

**WEIGHT**

44.2lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Mass Veterinary Services

**REFERRING VET**

Dr. Masloski

**INVOICE**

26122

**DATE**

8/31/22

**PRESENTING CLINICAL SIGNS**

History: Boomer was noted to have a heart murmur in December 2021. Episode of coughing in February with chest films revealing cardiomegaly, dorsal deviation of the trachea with a broncho-alveolar perihilar pattern. He was started on Lasix. Repeat films a week later revealed mild improvement in his lung fields. Boomer was started on Pimobendan. The cough has improved since starting medications, but Boomer is still coughing daily. The cough is primarily a small amount of liquid. Maintaining a resting respiratory rate under 30. He is eating well with normal activity and no S/V/D/PU/PD. On exam: NSR, grade IV/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear. BP not obtained. Current medications: 1) Pimobendan/vetmedin 10mg 1/2 tab twice a day 2) Pimobendan/vetmedin 1.25mg 1 tab twice a day 3) Lasix/furosemide 50mg 1.5 tabs twice a day 4) Apoquel 16mg 1/2 tab daily \*Sedated with propofol for study.

**ECHOCARDIOGRAM FINDINGS**

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

**Left ventricle:** Mild LV dilation with hyperdynamic myocardial function. Decreased LV wall thickness. Subtle septal bounce.

**Left atrium:** The left atrium is markedly dilated. Pulmonary veins appear dilated as they enter the lumen.

**Mitral valve:** Marked diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation. Decreased velocity.

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

**Right ventricle:** Mild RV dilation.

**Right atrium:** Mild right atrial dilation.

**Tricuspid valve:** The tricuspid valve appears mildly thickened with moderate tricuspid regurgitation. Elevated velocity consistent with moderate pulmonary hypertension.

**Pulmonic valve/Pulmonary artery:** The pulmonic valve is normal in morphology and mobility. The MPA appears mildly dilated. Normal pulmonic outflow velocities with laminar flow. No PI.

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

**2-Dimensional Measurements**

Ao diam (cm)	1.7
LA diam (cm)	4.4
LA:Ao (Swe)	2.6
IVS thickness (cm)	0.9
LVID diastole (cm)	4.3
PW thickness (cm)	0.9
LVID systole (cm)	2.4
FS (%)	44

**Doppler Measurements**

PV Vmax (m/s)	0.62
AoV Vmax (m/s)	1.1
MR Vmax (m/s)	4.5
TR Vmax (m/s)	3.9
TR PG (mmHg)	62

**INTERPRETATION OF THE FINDINGS**

The cause of the murmur is chronic degenerative valve disease causing severe mitral and moderate tricuspid regurgitation. Marked left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Moderate pulmonary hypertension is noted, which is likely secondary to a combination of chronic LA pressure elevation and potentially some degree of primary airway disease. No additional issues are identified.



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In light of a persistent cough and severity of disease on echocardiogram, the previous diagnosis of CHF is supported, and continuation of full cardiac supportive medications is recommended as below. The Lasix dose is quite high, and my hope is a decrease will be tolerated while adding Spironolactone. Sildenafil is also recommended due to the appearance of pressure overload. Finally, this breed is highly predisposed to underlying airway disease, which is suspected. Hydrocodone should be utilized to maintain quality of life with this degree of reported cough.

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The average survival time of canine patients with active pulmonary edema is 8-9 months on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

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**RECOMMENDATIONS**

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- Decrease Lasix to 50mg PO q12h.
- Continue Pimobendan as prescribed.
- Institute Spironolactone 1-2mg/kg PO q12h.
- Institute Sildenafil 1-2mg/kg PO q12h.
- Highly recommend Hydrocodone with homatropine 0.2-0.4mg/kg up to q4-6 hours PRN for any residual mechanical cough in the face of normal sleeping respiratory rates.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.
- Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home.
- Elective anesthesia is not advised.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.

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**PLAN**

**IMAGING PERFORMED BY**  
Pamela Harrigan,  
RDCS

- Monitor renal values and BP in 1-2 weeks. If BP >130mmHg, institute ACEI 0.5mg/kg PO q12h. Monitor renal panel/NBP every 3-4 months lifelong.
- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

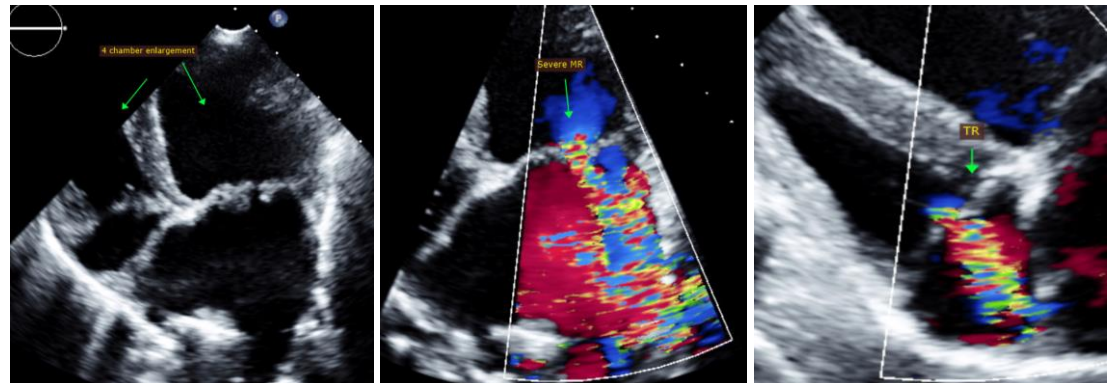
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**IMAGES**





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**

Beagle

**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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