



**PATIENT**

Sunny Ulen

**SPECIES**

Canine

**BREED**

Mix

**SEX**

Female Spayed

**AGE**

11 years

**WEIGHT**

25.8lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**IMAGING  
PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Mass Veterinary  
Specialty Services

**REFERRING VET**

Dr. Masloski

**INVOICE**

21622

**DATE**

10/20/21

**PRESENTING CLINICAL SIGNS**

History: Sunny was referred for a heart murmur first noted in July 2018. Seen for coughing in August with chest films revealing cardiomegaly. Started on Enalapril and Lasix at that time. Had some improvement with medications. Her activity level remains normal. She is eating well. Grade IV/VI systolic murmur. BP: 140mmHg x 5.  
-Current medications: 1) Enalapril 2.5mg 2 tabs daily 2) Lasix/furosemide 12.5mg 2 tabs daily  
\*Sedated with propofol for study.

**ECHOCARDIOGRAM FINDINGS**

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

**Left ventricle:** Significant LV dilation with decreased myocardial function.

**Left atrium:** The left atrium is severely dilated and bulbous in appearance.

**Mitral valve:** Diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with a 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 thickened, with mild tricuspid regurgitation. Normal velocity.

**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.

**Heart rhythm:** ECG reveals a sinus rhythm with an average HR of 140bpm.

**2-Dimensional Measurements**

Ao diam (cm)	1.7
LA diam (cm)	3.5
LA:Ao (Swe)	2.1
IVS thickness (cm)	0.83
LVID diastole (cm)	3.5
PW thickness (cm)	0.82
LVID systole (cm)	2.5
FS (%)	29

**Doppler Measurements**

PV Vmax (m/s)	0.6
AoV Vmax (m/s)	1.2
MR Vmax (m/s)	4.1
TR Vmax (m/s)	2.0
TR PG (mmHg)	16

**INTERPRETATION OF THE FINDINGS**

Chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. The LV shows signs of failure as well with decreased systolic function and decreased MR velocity. No additional issues are identified.

In light of the clinical signs and severity of disease on echocardiogram, there is concern for early congestive heart failure and continued lifelong medications are warranted as below. Lasix should be split twice daily with addition of Hydrocodone for a mechanical component suspected to be causing the cough.

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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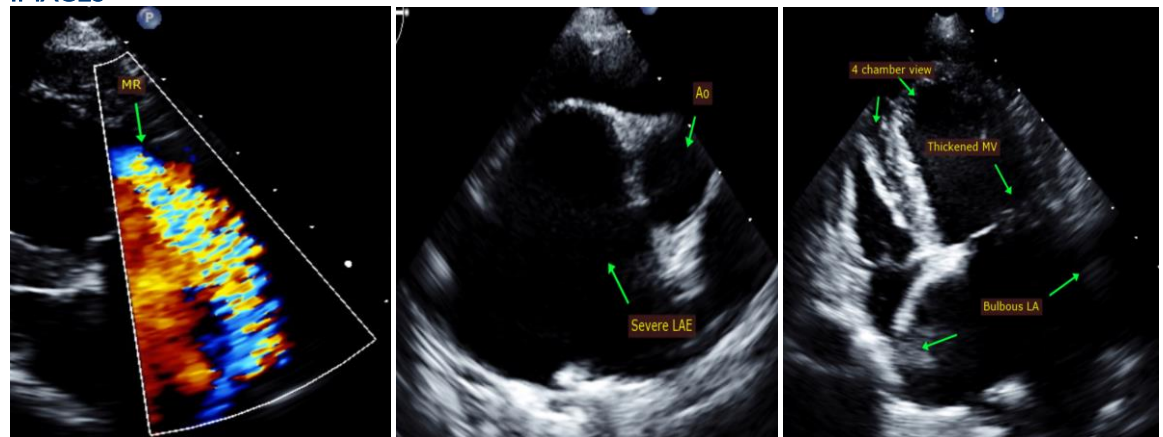
**RECOMMENDATIONS**

- Administer Lasix 1-2mg/kg PO q12h.
- Institute Spironolactone 1-2 mg/kg PO q 12h.
- Institute Pimobendan 0.25-0.3 mg/kg PO q12h.
- Administer Enalapril 0.5mg/kg PO q12h, pending BP measurement >130mmHg.
- Cough suppression to improve QOL can also be considered (hydrocodone, 0.2-0.4mg/kg up to q4-6h 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.

**PLAN**

- Monitor renal values and BP every 3-4 months lifelong.
- 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.

Maggie Machen Lamy, DVM  
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Echocardiogram performed by: Pamela Harrigan, RDCS  
Pet Animal Ultrasound Service (4paus.com)