



PATIENT

Niko McCrewell

SPECIES

Canine

BREED

Pomeranian

SEX

Male Neutered

AGE

15 years

WEIGHT

9lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan,
RDCS

HOSPITAL NAME

Mass Veterinary Services

REFERRING VET

Dr. Masloski

PRESENTING CLINICAL SIGNS

History: Recheck echo. History chronic valvular disease - Stage B2. Current presentation: Niko has had increased coughing (owner adjusting the Lasix dose). The cough has a tracheal sound and is most frequently noted at night but recently has increased during the day. Good appetite. Occasionally no labored breathing while resting. He does have an infected skin area in his left groin. On exam: NSR, grade IV/VI murmur with PMI left apical area, PSS, lung fields clear. BP: 130mmHg x 5. Current medications; 1) Rimadyl/carprofen 25mg 1/2 tab twice a day 2) Vet's Choice Glacier Salmon Oil 1/2 tsp daily 3) Cosequin Maximum Strength with MSM plus Omega 3 1 chew every other day 4) Lasix 20mg 1/2 tab am with 1 tab pm 5) Pimobendan/Vetmedin 1.25mg 1 tab twice a day 6) Hycodan 5mg 1 tab twice a day *No sedation for study.
-Pertinent previous echo findings (1/12/22 Keith Blass, DVM, DACVIM-Cardiology): LA 2.3 cm; LV 1.36 cm; moderate LAE; moderate LVE; moderate MR; mild TR (2.94 m/s; 35 mmHg); mild pulmonary hypertension; mild AI.

ECHOCARDIOGRAM FINDINGS

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

Left ventricle: Mild LV dilation with hyperdynamic function. LV wall thicknesses are normal.

Left atrium: The left atrium is severely enlarged.

Mitral valve: Diffuse thickening of mitral valve leaflets (anterior > posterior) with significant prolapse into the left atrial lumen. Severe mitral regurgitation with a normal velocity.

Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. Mild aortic insufficiency.

Right ventricle: Mild RV dilation.

Right atrium: Mild right atrial dilation.

Tricuspid valve: The tricuspid valve appears mildly thickened, with mild to moderate tricuspid regurgitation. Mildly elevated velocity consistent with mild pulmonary hypertension.

Pulmonic valve/Pulmonary artery: The pulmonic valve is normal with normal pulmonic outflow velocity. Mild MPA dilation. 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 84bpm.

2-Dimensional Measurements

Ao diam (cm)	1.4
LA diam (cm)	3.0
LA:Ao (Swe)	2.1
IVS thickness (cm)	0.7
LVID diastole (cm)	3.5
PW thickness (cm)	0.7
LVID systole (cm)	1.3
FS (%)	63

Doppler Measurements

PV Vmax (m/s)	0.9
AoV Vmax (m/s)	1.7
MR Vmax (m/s)	5.3
TR Vmax (m/s)	3.3
TR PG (mmHg)	43

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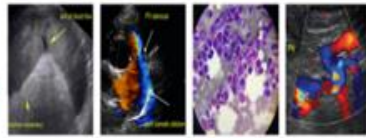
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INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease persists with severe mitral and mild to moderate tricuspid regurgitation. Compared to the prior study, there is progression in both LA and LV dimensions with development of severe disease. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Mild to moderate



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TR is also noted, with evidence of mild stable pulmonary hypertension and mild right heart dilation. No additional issues such as systolic dysfunction is identified.

SPECIES

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The described cough is likely multi-factorial in origin, given the breed predisposition to primary airway disease and description of the symptom. Recommend more aggressive Hydrocodone while maintaining a stable Lasix dose going forward. It is noted that the disease was previously stage B2; however, given development of clinically signs I would continue Lasix going forward. Additionally, if there has been an acute increase in severity, Baytril or similar is recommended to cover treatable bases. Careful discussion with the owner on monitoring of breathing rates is the best way to determine a mechanical cough from recurrent CHF in the future is advised. Regardless, full lifelong cardiac support is also recommended given the severity of disease and high risk for decompensation.

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The average survival of canine patients once Lasix becomes necessary 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. Monitoring of renal values is recommended lifelong.

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RECOMMENDATIONS

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- Consider course of Baytril or similar pulmonary antibiotic if indicated.
- Institute Spironolactone, 1-2mg/kg PO q12h.
- Institute low dose ACE-Inhibitor 0.5mg/kg PO q24h due to mild hypotension.
- Administer Pimobendan 0.3mg/kg PO q12h.
- Administer Lasix 1-2mg/kg PO q12h.
- Utilize Hydrocodone as needed, 0.2 - 0.4 mg/kg PO up to q4-6 hours PRN for cough (available in 5/1.5mg tablets or 5mg/5ml solution). Start with q6 hours and wean to lowest effective dosage.
- Elective anesthesia is not advised.
- Monitor for development of a cough, collapse episodes, significant lethargy in the future.
- Monitoring of sleeping breathing rates is recommended best way to screen for CHF in the future.

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PLAN

- Monitor renal values and BP in 1-2 weeks and then every 3-4 months on medications.
- A recheck echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs arise/persist.

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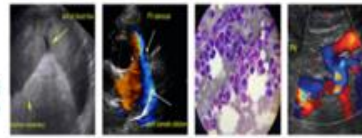
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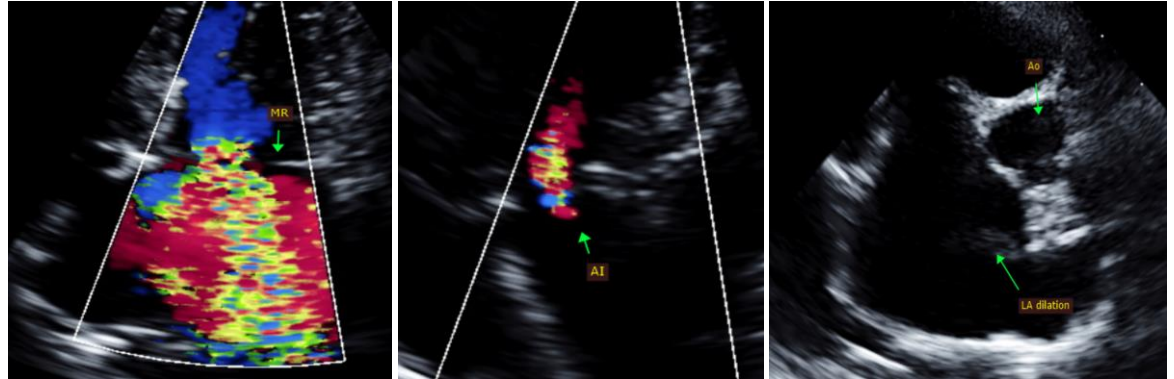
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IMAGES



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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Echocardiogram performed by:

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Pet Animal Ultrasound Service (4paus.com)