



PATIENT

Plato McNamara

SPECIES

Canine

BREED

Whippet

SEX

Male Neutered

AGE

12 years

WEIGHT

43lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan,
RDCS

HOSPITAL NAME

Mass Veterinary Services

REFERRING VET

Dr. Masloski

INVOICE

31656

DATE

7/3/23

PRESENTING CLINICAL SIGNS

History: Plato was seen last weekend for a cough and was noted to be in heart failure. History of heart murmur since 4 years old. He has been eating moderately well---tends to be a grazer and prefers eating at night. He does have some exercise intolerance noted with some PD but no noted PU. No coughing since starting his medications. On exam today: NSR, grade III/VI murmur with PMI left apical area, PSS, lung fields clear, mm pink, moist, CRT<2. BP: 130mmHg x 5. Current medications: 1) Pimobendan/vetmedin 5mg 1 tab twice a day 2) Lasix/furosemide 50mg 1 tab twice a day 3) Enalapril 10mg 1 tab daily 4) CBD oil for joints/mobility 5) Gabapentin 100mg 2 capsules 2-3 times a day as needed *Sedated with propofol for study.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 10mm/mV. The average heart rate is 120bpm (range 60-166bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. Periods of sinus tachycardia. Isolated VPCs throughout; singles only, monomorphic. No APCs, pauses or other dysrhythmias observed.

ECG diagnosis: Normal sinus rhythm with respiratory variation and periods of sinus tachycardia. Isolated VPCs.

ECHOCARDIOGRAM FINDINGS

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

Left ventricle: The LV diameter is increased with severe systolic dysfunction. LV wall thicknesses are decreased with increased sphericity.

Left atrium: The left atrium is moderate to severely dilated.

Mitral valve: The mitral valve is mildly thickened with no prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation. 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: Normal right ventricular diameter and morphology.

Right atrium: Normal RA dimension.

Tricuspid valve: The tricuspid valve appears normal with moderate tricuspid regurgitation. Normal velocity.

Pulmonary valve/Pulmonary artery: The pulmonic valve appears normal. No pulmonic insufficiency. Normal pulmonic outflow velocity.

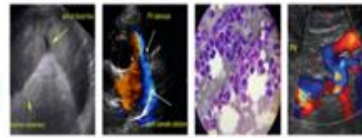
Pericardium/other: No pericardial effusion noted. Scant pleural and peritoneal effusion. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	2.2
LA diam (cm)	4.1
LA:Ao (Swe)	2.0
IVS thickness (cm)	0.8
LVID diastole (cm)	4.6
PW thickness (cm)	0.8
LVID systole (cm)	4.3
FS (%)	66

Doppler Measurements

PV Vmax (m/s)	0.5
AoV Vmax (m/s)	1.2
MR Vmax (m/s)	4.6
TR Vmax (m/s)	2.2
TR PG (mmHg)	20



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INTERPRETATION OF THE FINDINGS

The academic diagnosis could be argued in this case. The quantity of MR and TR is significant suggesting some component of primary valve disease. That being said, the LV function is severely depressed, which is more consistent with primary myocardial issue. Regardless, the LA is significantly dilated suggesting high risk for complication. No additional structural issues are identified.

Systolic failure can be primary in nature (DCM) or secondary to taurine deficiency, myocarditis, tachycardia-induced cardiomyopathy, or infiltrative disease such as lymphoma. In a senior whippet, all possibilities should be considered; however, screening for ancillary issues is recommended. This includes a diet history and thyroid panel. Regardless, prognosis is poor at this stage as CHF has been diagnosed, with an average survival time of <6 months. Patient will always be at risk for recurrent CHF, development of malignant arrhythmias and/or sudden death in the future.

As a complicating factor, the patient has also developed isolated VPCs, which should be monitored going forward. The VPCs are uniform in appearance with low markers of malignance; however, close monitoring is recommended.

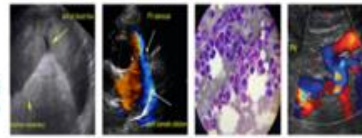
Given that the patient has no current syncope or other associated clinical signs, no treatment for the VPCs is warranted at this time. It is important to note that this patient is at high risk for sustained VT/VF and sudden death going forward and anti-arrhythmic medications may be warranted in the future. A holter monitor would be ideal to ensure no sustained arrhythmias are appreciated. Close monitoring going forward is advised.

Monitoring of sleeping respiratory rates will be paramount to screen for recurrent congestive heart failure at home in the future. Cough suppression to improve QOL can also be considered once diuretics are on board for any residual mechanical cough in the face of normal sleeping respiratory rates.

Prognosis is poor at this stage, with risk for recurrent congestive heart failure, malignant arrhythmias (AF, VT), collapse and/or sudden death in the future.

RECOMMENDATIONS

- Continue Lasix to 1-2mg/kg PO q12h.
- Institute Spironolactone 1-2mg/kg PO q12h.
- Continue Pimobendan 0.3mg/kg PO q12h.
- Continue Enalapril 0.5mg/kg PO q12h.
- Consider hydrocodone with homatropine, 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).
- Consider a holter monitor as discussed, particularly should any collapse be noted in the future.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Elective anesthesia is not advised.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF going forward.
- Lifelong activity restriction is advised.



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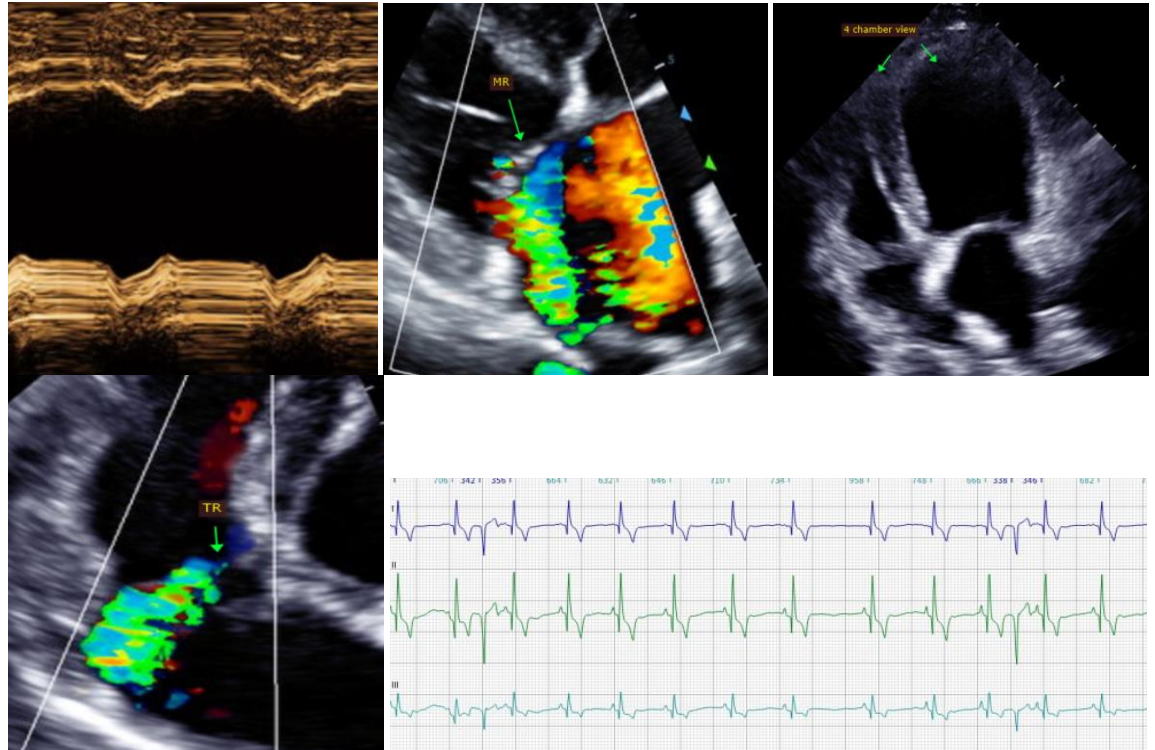
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PLAN

- Monitor renal values and blood pressure in 1-2 weeks then every 3-4 months lifelong.
- Recommend conservative monitoring with a recheck echocardiogram and ECG in 6 months, sooner if any development of clinical signs.

IMAGES



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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.

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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Pamela Harrigan, RDCS
Pet Animal Ultrasound Service (4paus.com)