



PATIENT
Theodore Mackay

PRESENTING CLINICAL SIGNS

History: Theodore was noted to have a heart murmur in March 2019. An arrhythmia was noted in January of this year when he was seen for constipation. Doing well at home. On exam, arrhythmia, grade II/VI parasternal murmur PSS lung fields clear compressible thorax 1) Atenolol 25mg 1/4 tab daily (had been hypertensive) 2) Dorzolamide 1-2 times a day 3) Flurbiprofen daily

SPECIES
Feline

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s, 20mm/mV. The underlying heart rate appears sinus in origin with a largely regular rhythm. Isolated APCs and VPCs are seen throughout the tracing. Brief runs of SVT are appreciated with a heart rate of 280bpm.

BREED
DLH

ECG diagnosis: Normal sinus rhythm with ventricular and supraventricular arrhythmias. Proximal SVT.

SEX
Male Neutered

ECHOCARDIOGRAM FINDINGS

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

AGE
10 years

Left ventricle: The LV diameter is normal with adequate myocardial function. The LV wall thicknesses are largely normal. There is a mild remodeling of the endocardium. The papillary muscles appear normal.

WEIGHT
13.4lbs

Left atrium: The left atrium is severely dilated. No obvious spontaneous contrast or thrombi seen.

Mitral valve: The mitral valve is normal in structure and mobility. No obvious systolic anterior motion is seen. No MR.

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

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

Right ventricle: Normal right ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension.

Right atrium: The right atrium is normal.

Tricuspid valve: The tricuspid valve appears normal with no tricuspid regurgitation.

Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. Mild pulmonic insufficiency. Normal RVOT velocity; laminar flow.

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

IMAGING PERFORMED BY

Pamela Harrigan,
RDCS

2-Dimensional Measurements

Ao diam (cm)	1.0
LA diam (cm)	2.0
LA:Ao (Swe)	2.0
IVS thickness (cm)	0.4
LVID diastole (cm)	1.69
PW thickness (cm)	0.4
LVID systole (cm)	0.89
FS (%)	47

Doppler Measurements

PV Vmax (m/s)	0.62
AoV Vmax (m/s)	0.66
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

HOSPITAL NAME

Mass Veterinary Services

REFERRING VET

Dr. Masloski

INVOICE

23598

DATE

4/12/22

INTERPRETATION OF THE FINDINGS

Significant underlying cardiomyopathy is noted, with severe LA dilation. The LV wall dimension is normal and systolic function intact, ruling out typical hypertrophic disease. These findings are most consistent with unclassified cardiomyopathy (UCM), and close monitoring is advised going forward. Serial echocardiography will be necessary to determine rate of progression.



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The development of rapid supraventricular arrhythmias is concerning and puts the patient at risk for atrial fibrillation. Generally, these develop secondary to atrial dilation as is suspected here. While the irregular rhythm is of little consequence, elevated heart rates are noted (up to 300bpm) which will decrease cardiac output. Rate control is recommended as below, although we must be careful to not drop the resting sinus rate beyond the target zone. Given that the patient is already on Atenolol, a simple dose increase is the first stop; however, if this is inadequate, we may need to change to diltiazem (TID dosing). Occasional VPCs should be monitored, without specific therapy indicated.

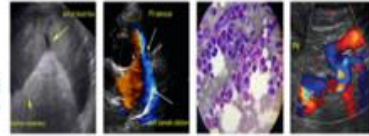
Regardless of categorical classification, this degree of atrial dilation and arrhythmic disease confers high risk for spontaneous congestive heart failure in the near future and lifelong medications are warranted as below even without symptoms. The long-term prognosis is guarded to poor; however, most cats are able to maintain a good quality of life for some time on medications if tolerated. The development of AF/VPCS is concerning for more malignant arrhythmias and sudden death in the future. Tolerance of medications in geriatric cats is always of concern, and blood values must be watched carefully.

RECOMMENDATIONS

- Institute low dose Lasix/furosemide 6.25mg PO q12h (as an alternative consider liquid suspension 0.6ml of 10mg/ml).
- Institute blood thinner Clopidogrel (Plavix) 75mg tablets; give ¼ tab orally once daily (NOTE: this medication is very bitter on the cut edges).
- Institute Pimobendan (off label use) 1.25mg PO q12h.
- Increase Atenolol to 6.25mg PO q12h.
- Monitor for any clinical evidence of cardiac compromise, including respiratory changes and/or signs of a blood clot event (paralysis, neurologic changes, etc.).
- Monitoring of sleeping breathing rates is recommended to screen for CHF in the future.
- Elective anesthesia is not advised.

PLAN

- Recheck renal values and HR in 10-14 days to ensure tolerance of medications, then every 3-4 months lifelong. Target HR 140-160bpm in hospital with a significant decrease in rapid arrhythmias. If insufficient, discontinue Atenolol and institute Diltiazem 1-2mg/kg PO q8h.
- A recheck echocardiogram and ECG are recommended in 6 months to assess progression.



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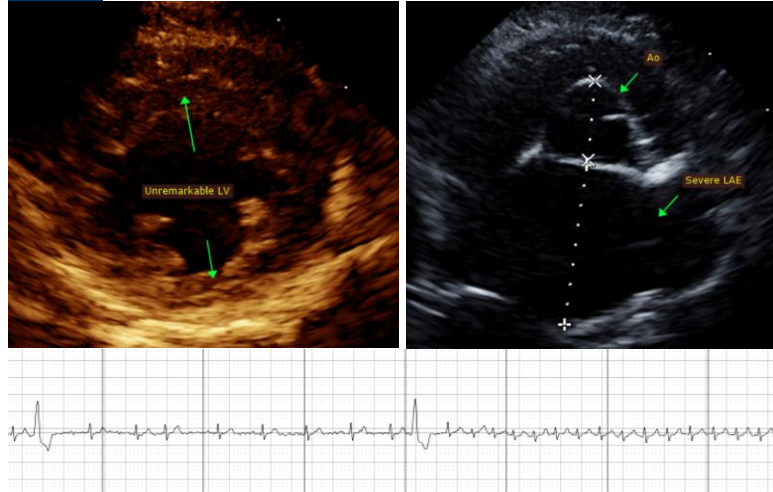
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IMAGES



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