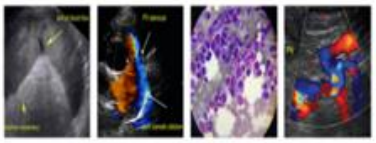
Mass Veterinary Services



SonoPath Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Yoshi Mathieu

SPECIES
Feline

BREED
DMH

SEX
Male Neutered

AGE
10 years

WEIGHT
13.75lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
26240

DATE
9/7/22

PRESENTING CLINICAL SIGNS

History: Yoshi was noted to have a heart murmur in May. ProBNP elevated at 747. History of coughing (not currently coughing). He is eating well with normal cat activity. On exam: NSR, grade II/VI parasternal murmur, PSS, lung fields clear, compressible thorax. BP: 150mmHg x 5. No medications. *No sedation for study.

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 average heart rate is 180bpm with a largely regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. P morphology is positive. The QRS is inverted. Isolated VPCs are identified throughout; 9 in a two-minute tracing. Primarily singles with 2 tightly coupled couplets. No supraventricular premature beats, pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm with single and couplet VPCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is decreased with adequate function. The LV wall is asymmetric with moderate to severe hypertrophy. There is a diffusely hyperechoic endocardium consistent with fibrosis. False tendon. The papillary muscles are hypertrophied and hyperechoic. The endocardium appears remodeled.
Left atrium: The left atrium is mild to moderately dilated. No obvious smoke or thrombi seen.
Mitral valve: The mitral valve appears mildly thickened with No MR. No obvious systolic anterior motion is seen, although the tip of the mitral valve does exhibit abnormal motion.
Aortic valve/Aorta: The aortic valve is normal. No obvious stenosis. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: The right ventricular is normal.
Right atrium: The right atrium is normal.
Tricuspid valve: The tricuspid valve appears mildly thickened with no tricuspid regurgitation.
Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow.
Pericardium/other: Scant pericardial and no pleural effusion noted. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	1.0
LA diam (cm)	1.7
LA:Ao (Swe)	1.7
IVS thickness (cm)	0.73
LVID diastole (cm)	1.0
PW thickness (cm)	0.82
LVID systole (cm)	0.63
FS (%)	37

Doppler Measurements

PV Vmax (m/s)	1.6
AoV Vmax (m/s)	1.2
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

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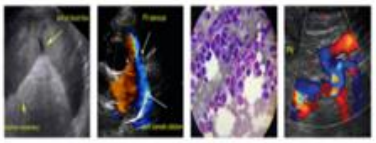

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INTERPRETATION OF THE FINDINGS

The finding of mild to moderate left atrial enlargement in the face of significant LV hypertrophy is most consistent with hypertrophic cardiomyopathy. A thyroid level should be assessed in this normotensive cat. Regardless, mild to moderate left atrial dilation is present in addition to a highly remodeled LV, which indicates diastolic dysfunction. The ECG shows a ventricular arrythmia with single and couplet VPCs. VPCs in this case are certainly secondary to structural disease, likely exacerbated by stress. Finally, scant pericardial effusion is noted, which is of unknown significance with this degree of disease in an asymptomatic patient.

Regardless of categorical classification, the finding of atrial dilation and arrhythmic disease confers risk for progression in the future and medications should be considered. Pimobendan is recommended given the totality of the findings. Additionally, Plavix may be reasonable given atrial dilation to help decrease the risk of a blood clot event in the future. If the patient is able to be medicated, these are recommended as below.

Additionally, we must determine if treatment is indicated for the arrhythmia. In an asymptomatic cat, it is reasonable to simply monitor going forward given only single VPCs identified. That being said, the finding of tight couplets puts the patient at higher risk for complications and Atenolol is recommended as a conservative approach. Recommend reassess the ECG in 1-2 weeks.

The long-term prognosis given the totality of the findings is guarded; however, there is a highly variable rate of progression in cats with sub-clinical disease. There will always remain risk for progression to CHF and development of blood clots in the future. Monitoring is certainly advised, particularly should any respiratory signs, collapse or significant lethargy be noted in the future.

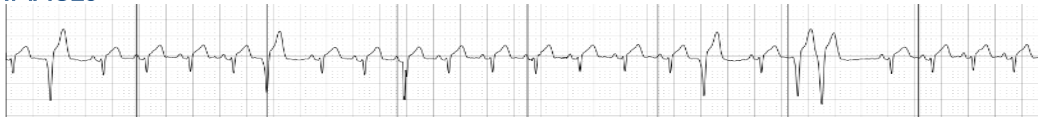
RECOMMENDATIONS

- If able, institute blood thinner Plavix 75mg tabs; Give ¼ tab by mouth every 24 hours (NOTE: bitter along cut edge, may cause foaming at the mouth; coat in entirety).
- If able, institute Pimobendan (off label use) 1.25mg PO q12h.
- Recommend institute Atenolol 25mg tablets; Give ¼ tab once daily. Recheck heart rate in 1-2 weeks to assess response.
- If patient develops lethargy or collapse, immediate recheck ECG is recommended to screen for malignant sustained arrhythmias.
- Elective anesthesia is not advised.
- Monitor for any clinical evidence of cardiac compromise, including respiratory changes, collapse and/or signs of a blood clot event (paralysis, neurologic changes, etc.)

PLAN

- Recheck BP and ECG in 1-2 weeks, then every 3-4 months lifelong.
- Recheck echocardiogram in 6 months, sooner if clinical signs arise

IMAGES



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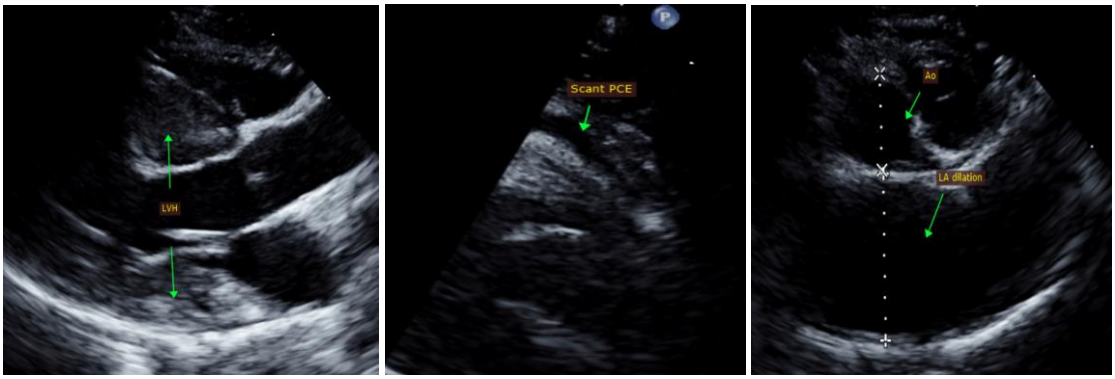

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com

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