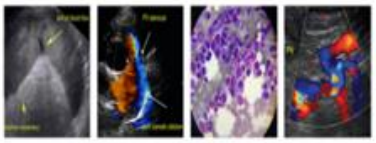
Mass Veterinary Services



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

PATIENT
Renny Aumand

SPECIES
Feline

BREED
DSH

SEX
Male Neutered

AGE
3 years

WEIGHT
11.69lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
22339

DATE
12/8/21

PRESENTING CLINICAL SIGNS

History: Renny had a seizure type episode two days ago---found lying with his mouth open, panting with a few seconds of not breathing noted. He did defecate during the incident. An arrhythmia was noted on his physical exam the following day. Last night, Renny fell over, urinated. He was then brought to an emergency center where he had an EKG which revealed intermittent VPC's with some couplets and triplets. This morning, Renny had another episode of dyspnea noted and seemed a bit disorientated. His appetite has remained normal with no C/S/V/D. He is indoors exclusively. Exam: NSR, no murmurs noted, PSS, lung fields clear. BP: 110mmHg x 5 *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 underlying rhythm is sinus in origin with an average heart rate of 214bpm. P and QRS morphologies are positive. Frequent ventricular arrhythmias throughout; singles, couplets and brief unstable run (triplet) of VT. No supraventricular premature beats, pauses or other dysrhythmias observed.
ECG diagnosis: Sinus tachycardia with malignant ventricular arrythmias.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is normal with mild depressed myocardial function. The LV wall thicknesses are highly irregular with significant septal thinning and a moderately thickened free wall. There is a diffusely hyperechoic endocardium consistent with fibrosis. The endocardium appears remodeled. The papillary muscles remodeled and asymmetric.
Left atrium: The left atrium is moderately dilated with a bulbous appearance. 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 obvious mitral regurgitation.
Aortic valve/aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity. No 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 in dimension.
Tricuspid valve: The tricuspid valve appears normal 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: No pericardial or pleural effusion noted. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	0.9
LA diam (cm)	1.6
LA:Ao (Swe)	1.8
IVS thickness (cm)	0.30
LVID diastole (cm)	1.6
PW thickness (cm)	0.76
LVID systole (cm)	1.0
FS (%)	38

Doppler Measurements

PV Vmax (m/s)	0.97
AoV Vmax (m/s)	0.92
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

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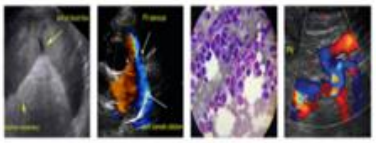

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INTERPRETATION OF THE FINDINGS

Suspicion for end-stage or burnout HCM physiology based upon a highly asymmetric LV appearance. The free wall is moderately hypertrophied with significant thinning of the septum. The systolic function is also mildly depressed, which may be exacerbated by the current arrhythmia. These findings are highly concerning for progressive disease going forward. Moderate left atrial dilation is identified which raises the risk for complication going forward. No additional issues are identified.

The ECG is highly concerning with malignant ventricular arrythmias and a brief run of ventricular tachycardia (VT). This is unusual to see in cats; however, is suspected to be the cause of the episodes in this particular case. This has likely developed secondary to structural disease and warrants immediate emergency therapy. Ideally, a compounded version of Sotalol would be utilized with a loading dose of 2mg/kg; however, if there is any delay in obtaining this medication, Atenolol can be used in hospital. A low dose of lidocaine should only be utilized if sustained VT is seen, as there is high risk for side effects in this species. Cats with malignant ventricular arrythmias are at high risk for sudden death and this persists despite medical management.

The ideal approach to this case would be overnight hospitalization for monitoring until sotalol is on board and the ECG stabilizes. Additionally, cardiac supportive Pimobendan and Plavix are recommended as below. No obvious indication for Lasix in the absence of respiratory signs; however, I would not hesitate to utilize this medication should any develop in the future.

The long-term prognosis is poor even with medications and no recurrent symptoms; however, most cats are able to maintain a good quality of life for <6 months. There will always remain risk for recurrent CHF, malignant arrhythmias, development of blood clots in the future.

RECOMMENDATIONS

- If able, institute Sotalol 1-2mg/kg as a loading dose ASAP, followed by 1mg/kg PO q12h (compounding to a liquid formulation is the likely recommended approach). In the interim if mg is not available, Atenolol can be used in hospital; 6.25mg PO q12h.
- Ideally hospitalize overnight until Sotalol is obtained/on board and the patient's ECG is stabilized.
- Lidocaine can be used if sustained VT develops at a low dose (0.5mg/kg IV slowly); however, there is inherent risk in this medication.
- Institute Pimobendan 1.25mg PO q12h.
- Institute 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).
- Elective anesthesia is not advised.
- Monitor for any clinical evidence of cardiac compromise, including respiratory changes and/or signs of a blood clot event (paralysis, neurologic changes, etc.).

PLAN

- Recheck renal panel, BP and ECG in 1-2 weeks to ensure the patient appears stabilized, then every 4-6 months lifelong.
- Recheck echocardiogram is recommended in 6 months.

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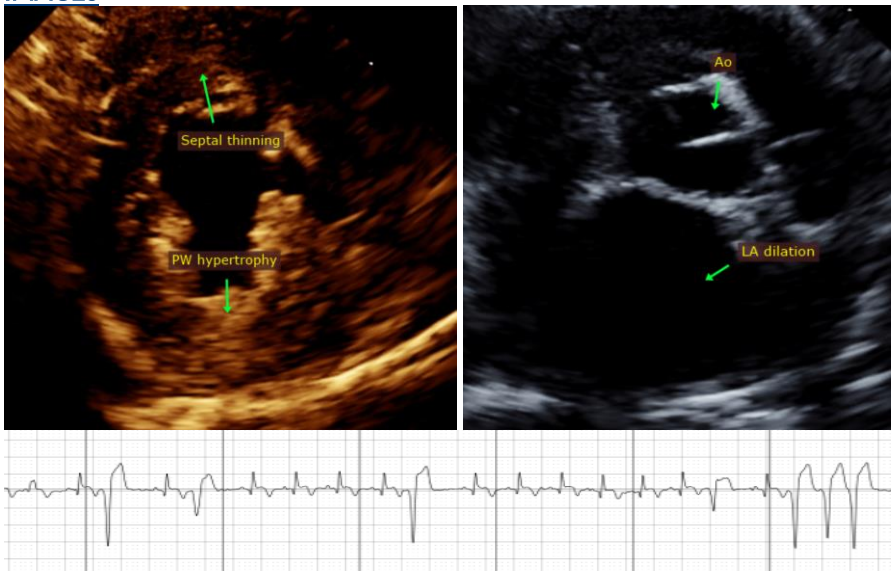

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)