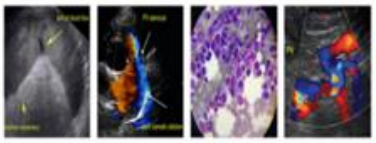
Mass Veterinary Services



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

PATIENT
Sam Jankowski

SPECIES
Feline

BREED
DSH

SEX
Male Neutered

AGE
11 years

WEIGHT
8.75lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
25261

DATE
7/12/22

PRESENTING CLINICAL SIGNS

History: Recheck echo. History HOCM; dynamic RVOTO on prior echo 1/4/22 (Carley Saelilnger, VMD, DACVIM-Cardiology). Currently, Sam is doing well at home. No respiratory issues noted On exam: NSR, grade IV/VI murmur with PMI on sternum, PSS, lung fields clear, compressible thorax. BP: 120-130mmHg. Currently, no medications. *No sedation for study.
-Pertinent previous echo findings (1/4/22 Carley Saelinger, VMD, DACVIM-Cardiology): LA 1.4 cm; LA:Ao 1.27; IVS 0.53 cm; PW 0.75 cm; LVOT Vmax 2.51 m/s; mild LAE; SAM of MV; mild MR; moderate LVH/septal bulge; DRVOTO.

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 a heart rate of 188bpm. The QRS is inverted. Two isolated definitive VPCs are identified. Throughout the rhythm there is a QRS morphology variation, which may suggest isolated APCs. That being said, the coupling interval is only slightly faster than the sinus heart rate making this inconclusive. No sustained tachycardias, pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with isolated VPCs. Open for APCs versus other.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV chamber is normal with adequate myocardial function. The LV wall thicknesses are asymmetric with moderate septal hypertrophy and severe free wall thickening. There is a diffusely hyperechoic endocardium consistent with fibrosis. The papillary muscles are severely hypertrophied and hyperechoic. The endocardium appears mildly remodeled.
Left atrium: The left atrium is mildly enlarged. No smoke or thrombi seen.
Mitral valve: The anterior leaflet of the mitral valve appears normal. Systolic anterior motion is seen on 2D imaging. Moderate eccentric MR.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Moderately increased aortic outflow velocity with a dynamic profile. 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.
Pulmonary valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Mildly increased RVOT velocity with a dynamic profile.
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	1.0
LA diam (cm)	1.4
LA:Ao (Swe)	1.4
IVS thickness (cm)	0.64
LVID diastole (cm)	1.2
PW thickness (cm)	0.80
LVID systole (cm)	0.59
FS (%)	50

Doppler Measurements

PV Vmax (m/s)	2.4
AoV Vmax (m/s)	4.3
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

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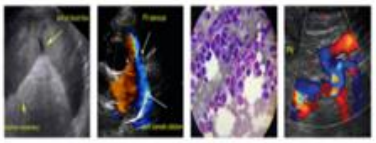

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INTERPRETATION OF THE FINDINGS

Hypertrophic obstructive cardiomyopathy (HOCM) persists with evidence of progression. The LV hypertrophy has increased globally with moderate to severe pathology overall. The dynamic LVOT obstruction is also increased with a more significant pressure gradient. Mild unchanged left atrial enlargement indicates the risk for spontaneous CHF and/or a thrombotic event is currently low. No additional structural issues are identified.

The ECG does show an arrythmia with two abnormalities identified. First, are isolated VPCs, which are no doubt secondary to LV pathology. These are of relatively low concern, given the frequency and morphology. Additionally, there is some variability in the sinus complexes which may suggest isolated APCs as well. The coupling interval is inconsistent and not particularly premature, making this difficult to differentiate without a six-lead tracing. Regardless, APCs are of low concern; however, SVT is certainly a possibility going forward.

Given progression on the echocardiogram as well as development of an arrythmia, Atenolol is recommended at this time as below. My hope is this will control both the underlying high heart rate and potentially may have some impact on VPC's as well. No additional medications are indicated prior to significant atrial dilation.

Prognosis is guarded given the severity of disease in this senior cat. Patient will always be risk for progression to CHF, development of blood clots and/or sudden death in the future.

RECOMMENDATIONS

- Administer titrating dose of atenolol: 25mg tablets; Give ¼ tab once daily. Recheck heart rate in 1-2 weeks with target stressed rate of 140-160bpm 12-24 hours post-administration. Increase as needed until target reached.
- Consider a 6 lead ECG as able.
- Screening BP/T4 every 6 months.
- Anesthetic risk is considered elevated, with high risk for fluid overload, spontaneous CHF, hypotension, etc. Judicious IV fluid rates are advised to avoid fluid overload. Drugs that stimulate heart rate should be avoided unless clinically necessary (glycopyrrolate, atropine). Avoid ketamine, telazol, acepromazine and Dexdomitor.
- 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 ECG or HR in 1-2 weeks to assess response to Atenolol. Target HR is 140-160bpm.
- Recommend recheck echocardiogram in 6 months to assess rate of progression, sooner if any issues arise in the interim.

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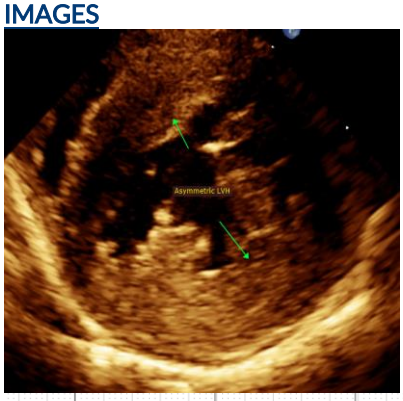
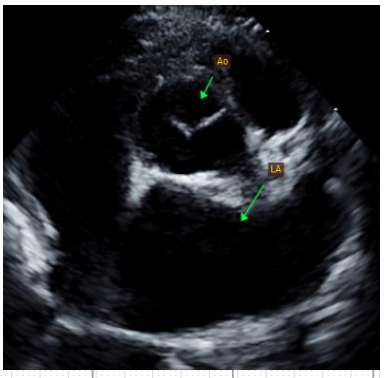
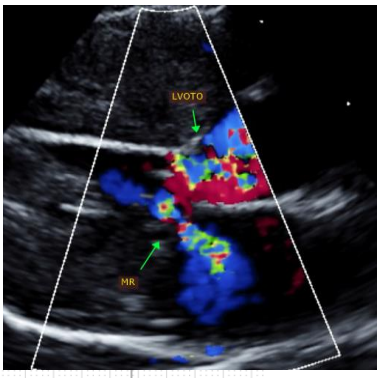
IMAGES







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.

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)