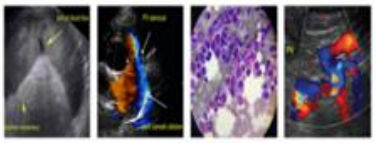
Mass Veterinary Services



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

PATIENT
Pumpkin Kowalczyk

SPECIES
Feline

BREED
DSH

SEX
Male Neutered

AGE
12 years

WEIGHT
15.25lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
24634

DATE
6/7/22

PRESENTING CLINICAL SIGNS

History: Pumpkin was noted to have a heart murmur in April 2019. He has a long-standing history of asthma for which he takes prednisolone. A thyroid level done in May was normal. Chest films in May revealed a questionable cardiomegaly with a bronchial to broncho-interstitial pattern in the lung fields. Lasix was added to the treatment plan. He has not been coughing and is back to running around the house without becoming out of breath. Good appetite. On exam today: arrhythmia noted, grade II/VI parasternal murmur, PSS, lung fields clear, compressible thorax. BP: 170mmHg x 5. Medications 1) Prednisolone 5mg 1/2 tab daily 2) Lasix/furosemide 12.5mg ---stopped two weeks ago *Sedated with propofol 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 a heart rate of 150bpm. P for every QRS complex and vice versa. P and QRS morphologies are positive. Frequent premature beats are noted throughout, both APCs and VPCs. Singles only. No pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with VPCs and APCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is normal with adequate myocardial function. The LV wall thicknesses are moderately increased. There is a diffusely hyperechoic endocardium consistent with mild fibrosis. The endocardium appears remodeled. The papillary muscles are hypertrophied.
Left atrium: The left atrium is severely dilated. No obvious smoke or thrombi visualized.
Mitral valve: The anterior leaflet of the mitral valve is mildly thickened. The tip of the mitral valve is visible in the LVOT during systole. Mild eccentric mitral regurgitation is noted secondary to SAM.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Aortic outflow velocities are mildly elevated 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. Normal RVOT velocity with a dynamic profile
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	1.1
LA diam (cm)	2.5
LA:Ao (Swe)	2.3
IVS thickness (cm)	0.72
LVID diastole (cm)	1.3
PW thickness (cm)	0.76
LVID systole (cm)	0.70
FS (%)	58

Doppler Measurements

PV Vmax (m/s)	0.84
AoV Vmax (m/s)	2.8
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

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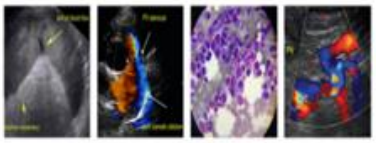

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INTERPRETATION OF THE FINDINGS

The diagnosis and cause of the murmur is Hypertrophic Obstructive Cardiomyopathy (HOCM). This diagnosis is based upon an obstructive LVOT pattern, moderate LV hypertrophy and secondary mitral regurgitation. Most importantly, there is severe left atrial dilation indicating the risk for progression to spontaneous CHF and/or a thrombotic event is elevated going forward.

Long term prognosis is guarded as patient is at risk for development of clinical signs. That being said, many cats will succumb to CHF within years while others will remain asymptomatic for some time. Close monitoring for progression of LA dilation in the future will help determine long term prognosis.

While no medications have been shown to definitively alter long term outcome at this stage of disease, atenolol is often initiated to decrease the outflow obstruction. Depending on the patients resting heart rate (sedated upon exam), a low dose of this may be reasonable particularly in light of the arrythmia. If the resting heart rate remains relatively slow, I would not utilize this medication. Additionally, given the degree of atrial enlargement, it is reasonable to continue Lasix, with addition of Plavix going forward. Concurrent asthma will make symptom differentiation difficult, and both must be considered with any respiratory issues. While prednisone would ideally not be utilized, this is likely benefiting the respiratory disease and is reasonable to continue. Consider inhaled options as potentially safer options.

Both VPCs and APCs are documented as the cause of the arrythmia. These are not surprising give the degree of atrial dilation and a stressed patient in hospital. No treatment is warranted based upon what is seen here. Monitor for signs of sustained arrythmias, such as acute collapse or lethargy.

RECOMMENDATIONS

- Reassess heart rate when not sedated. If resting heart rate is >200bpm, administer low 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.
- If able administer Clopidogrel (Plavix) 75mg tabs, give ¼ tab PO q24 h (NOTE: This medication is very bitter along the cut edge and may cause oral foaming).
- Continue Lasix 1mg/kg PO q12hr.
- Consider fluticasone if able; otherwise, continue prednisolone.
- 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

- Monitor renal values and BP every 3-4 months life-long
- Recommend recheck echocardiogram and ECG in six months to assess for progression, sooner if clinical signs arise in the interim.

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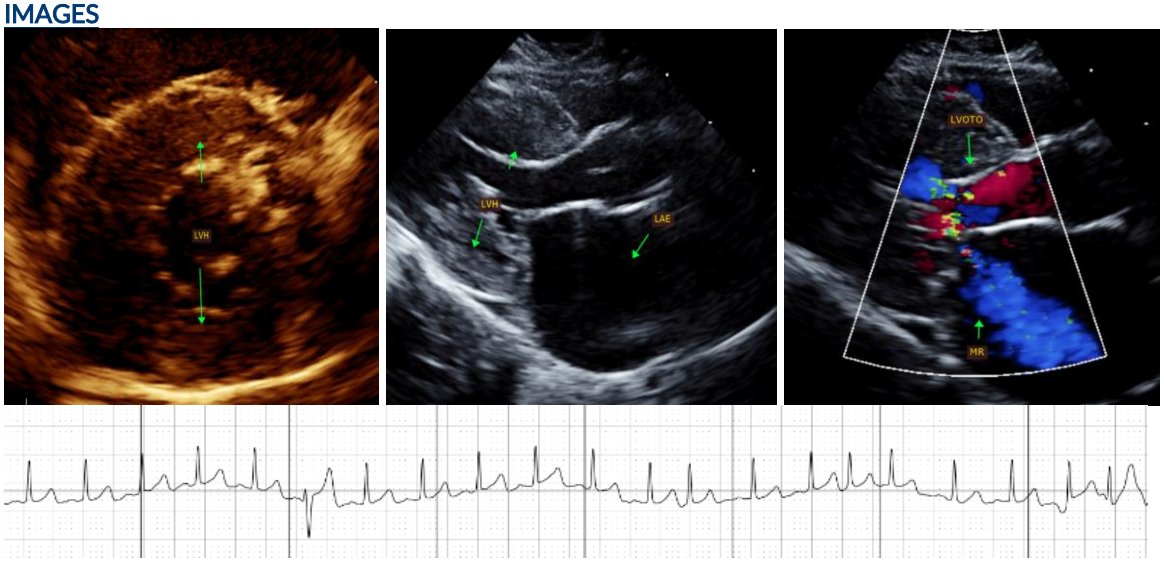

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)