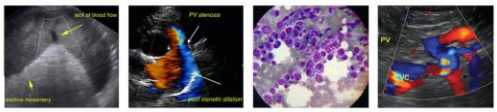
Mass Veterinary Specialty Services
1-413-734-1292



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

PATIENT
Buddy Quevedo

SPECIES
Feline

BREED
DSH

SEX
Male Neutered

AGE
13 years

WEIGHT
14.38lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Specialty Services

REFERRING VET
Dr. Masloski

INVOICE
21507

DATE
10/13/21

PRESENTING CLINICAL SIGNS

History: Referred for heart murmur and elevated ProBNP >1500. Stage II CRD. Doing moderately well but appetite somewhat decreased and continued to be PU/PD. Activity level remains normal. On exam, NSR, grade II/VI murmur; lung fields clear, compressible thorax. BP: 120mmHg x 5. *No sedation for exam.

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 188bpm with a largely regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. P and QRS morphologies are positive. Four isolated VPCs are identified; singles only. No supraventricular ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus tachycardia. Isolated VPCs.

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 is asymmetrical with mild septal thickening and severe free wall hypertrophy. False tendon. 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 moderately increased in dimension with a horizontal component. No smoke or thrombi visualized.
Mitral valve: The anterior leaflet of the mitral valve is elongated and thickened, consistent with dysplasia. No obvious stenosis. The tip of the mitral valve is visible in the LVOT during systole. Moderate eccentric mitral regurgitation is noted secondary to SAM.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Aortic outflow velocities are significantly 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.
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	1.1
LA diam (cm)	1.7
LA:Ao (Swe)	1.5
IVS thickness (cm)	0.6
LVID diastole (cm)	1.5
PW thickness (cm)	1.0
LVID systole (cm)	0.7
FS (%)	52

Doppler Measurements

PV Vmax (m/s)	0.83
AoV Vmax (m/s)	3.6
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

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, significant LV hypertrophy and secondary mitral regurgitation. The mitral valve appears mildly abnormal

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which may indicate some degree of underlying dysplasia as well. Most importantly, there is moderate 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. Given the degree of hypertrophy and LA dilation, highly recommend institution at this time if possible. Additionally, an anticoagulant could be argued with this degree of atrial dilation, however this medication can be very difficult to administer.

The ECG does confirm occasional isolated ventricular premature contractions (VPCs). VPCs can certainly be cardiac in origin with significant structural disease, which is likely the case here. No obvious indication for anti-arrhythmic therapy at this time. Close monitoring for any associated clinical signs including collapse or significant lethargy is advised with immediate re-evaluation in these instances. Prognosis is guarded, as in any arrhythmic patient sudden death is certainly a possibility even on medications.

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.
- If elected/possible, 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).
- Elective anesthesia is not advised until response to atenolol is evaluated.
- Monitor for any clinical evidence of cardiac compromise, including respiratory changes and/or signs of a blood clot event (paralysis, neurologic changes, etc.).

PLAN

- Recommend recheck echocardiogram in six months to assess for progression, sooner if clinical signs arise in the interim.

IMAGES

VPCs

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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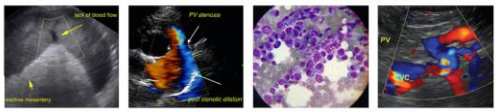

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Maggie Machen Lamy, DVM
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Echocardiogram performed by: Pamela Harrigan, RDCS
Pet Animal Ultrasound Service (4paus.com)