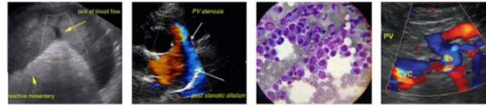
Mass Veterinary Specialty Services
1-413-734-1292



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

PATIENT
Rocky Carlson

SPECIES
Canine

BREED
Yorkshire Terrier Mix

SEX
Male Neutered

AGE
18 years

WEIGHT
10lbs

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
21585

DATE
10/19/21

PRESENTING CLINICAL SIGNS

History: Recheck echo. History chronic valvular disease - Stage B2; history isolated VPCs. Current presentation: Rocky had his cytopoint 3 weeks ago. His cough has become worse especially when he wakes up or has a drink. He is only on the diphenoxylate at 1.25mg in the evening (develops diarrhea with hycodan). He is presently eating well with no S/V/D but is a bit PU/PD. CV/RESP: Arrhythmia, grade IV/VI murmur with PMI left apical area radiating to right with grade II/VI murmur noted on right, PSS, lung fields clear. BP: 240-260mmHg x 5. -Current medications: 1) Pimobendan 3.75mg 1/3 tab twice a day 2) Lasix/furosemide 12.5mg 1 tab twice a day 3) Diphenoxylate with atropine 2.5mg 1/2 tab in evening 4) Cytopoint -Pertinent previous echo findings 94/20/21 MML): LA 2.3 cm; LA:Ao 1.8; LV 2.0 cm; moderate LAE; moderate MR; mild TR (2.5 m/s). *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 136bpm (range is 115-150bpm).). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. Occasional isolated VPC's are identified, singles only and monomorphic. Occasional isolated APCs are also visualized. A single supraventricular couplet is noted. No additional abnormalities are identified.
ECG diagnosis: Normal sinus rhythm with isolated APCs and VPCs.

ECHOCARDIOGRAM FINDINGS

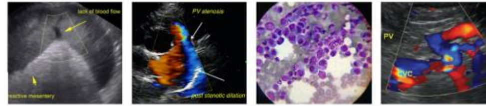
2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is significantly increased with hyperdynamic function. LV wall thicknesses are normal.
Left atrium: The left atrium is severely dilated.
Mitral valve: The mitral valve is diffusely markedly thickened with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with a normal velocity.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: Normal right ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension.
Right atrium: Normal RA dimension.
Tricuspid valve: The tricuspid valve appears significantly thickened with prolapse and mild tricuspid regurgitation. Normal velocity.
Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. Trace pulmonic insufficiency. Normal RVOT velocity; laminar flow.
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

2-Dimensional Measurements

Measurement	Value
Ao diam (cm)	1.3
LA diam (cm)	3.0
LA:Ao (Swe)	2.5
IVS thickness (cm)	0.6
LVID diastole (cm)	2.9
PW thickness (cm)	0.5
LVID systole (cm)	1.2
FS (%)	59

Doppler Measurements

Measurement	Value
PV Vmax (m/s)	0.57
AoV Vmax (m/s)	1.1
MR Vmax (m/s)	5.2
TR Vmax (m/s)	2.7
TR PG (mmHg)	30



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INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease persists with evidence of significant progression. Both the LA and LV are severely enlarged indicating high risk for complication at this time. No additional issues such as pulmonary hypertension are identified.

The ECG shows persistent VPCs with concurrent APCs as well. Only isolated beats are identified with a single supraventricular couplet, and medication is not yet warranted. That being said, this patient is at high risk for development of rapid atrial fibrillation and the owner should be alerted to watch for collapse and/or acute lethargy in the future.

Given these findings, Pimobendan and Lasix are certainly recommended going forward. Addition of Spironolactone and an ACE-I are also recommended given the severity of the changes and reportedly elevated blood pressure.

The cough is likely multi-factorial given a history of airway disease; however, if the symptom is progressing, repeat CXR are strongly recommended.

The reported blood pressure is elevated and should be reassessed for accuracy particularly given no reported clinical signs of severe hypertension (retinal changes, etc.) or evidence of LVH on echo. Ideally obtain serial measurements in a controlled, low stress environment and continue until 3 consecutive readings plateau within 5mmHg of variability. If persistently >180mmHg despite a relatively calm demeanor, recommend institution of amlodipine to effect. Additionally, if deemed accurate, screening for predisposing underlying causes of SHT is recommended (Cushings, PLN, adrenal tumor, etc.), as primary disease is relatively uncommon and a rule out diagnosis.

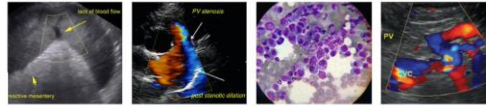
Unfortunately, the overall prognosis is poor, and our goal is to maintain quality of life for some time going forward. Patient will always be at risk for development of CHF, malignant arrythmias, and/or sudden death in the future.

RECOMMENDATIONS

- Continue Pimobendan and Lasix as prescribed.
- Institute Spironolactone 1-2mg/kg PO q12h.
- Institute ACE-I 0.5mg/kg PO q12h.
- Reassess BP as discussed once ACE-I is onboard.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Elective anesthesia is not advised due to high risk for complication.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

- Monitor renal values and BP every 3-4 months lifelong.
- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.



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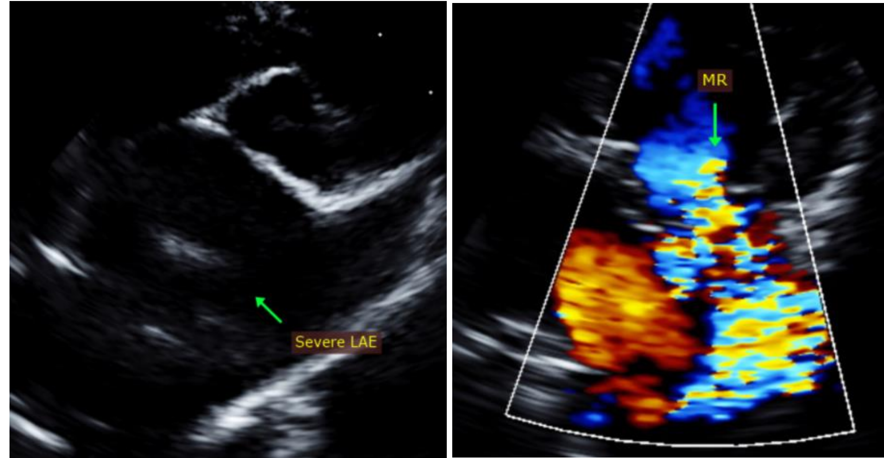
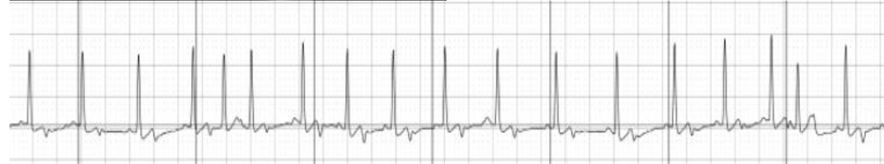
IMAGES





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)