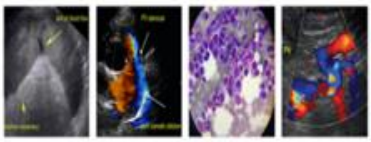
Mass Veterinary Services



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

PATIENT
Rolo Wall

SPECIES
Canine

BREED
Lab

SEX
Male Neutered

AGE
9 years

WEIGHT
96.9lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
28371

DATE
1/17/23

PRESENTING CLINICAL SIGNS

History: Rolo started having a "honking" cough in late December. He was seen at an urgent care facility and started on antibiotic (doxy?) with no improvement. Chest films were suspicious for fluid around the heart. Lasix was started last night and into today. Last night, he was very lethargic with some labored breathing . He also continues to have coughing fits. Will no longer eat his dry food. He has been on a grain free diet for the past ~ 7 years. No S/V/D/PU/PD. The owner has noted some mild improvement with the Lasix. Diet: Blue Buffalo limited ingredient grain free diet. On exam: no murmurs noted, PSS, lung fields clear, mm pink, moist, CRT<2. BP: 220 mmHg x 3. *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 average heart rate is 140bpm with an underlying sinus rhythm. P and QRS morphologies are positive. VPCs are identified throughout; primarily singles with multiform couplets noted. Period of trigeminy. No supraventricular ectopic beats, pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with malignant ventricular arrhythmias.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is significantly increased with systolic dysfunction. Regional hypokinesis with a significantly affected free wall. LV wall thicknesses are mildly decreased. Increased LV sphericity.
Left atrium: The left atrium is severely dilated.
Mitral valve: The mitral valve is minimally thickened with no prolapse into the left atrial lumen. Mild central mitral regurgitation.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: mild RV dilation.
Right atrium: Mild RA dilation.
Tricuspid valve: The tricuspid valve appears normal with no significant tricuspid regurgitation.
Pulmonary 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)	2.2
LA diam (cm)	6.4
LA:Ao (Swe)	2.9
IVS thickness (cm)	0.8
LVID diastole (cm)	7.1
PW thickness (cm)	0.9
LVID systole (cm)	0.57
FS (%)	19

Doppler Measurements

PV Vmax (m/s)	0.8
AoV Vmax (m/s)	1.2
MR Vmax (m/s)	NM
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

INTERPRETATION OF THE FINDINGS

Four chamber dilation with a decline in systolic is identified. Mild MR is suspected to be secondary to dilation. The LA is severely enlarged, indicating high risk for progression to congestive heart failure. No additional issues are identified in this study.

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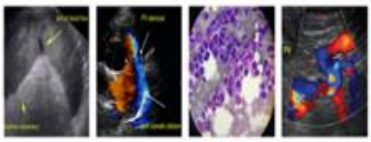

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Dilation and dysfunction can be primary in nature (primary DCM) or develop secondary to taurine deficiency, myocarditis, tachycardia-induced cardiomyopathy, or infiltrative disease such as lymphoma. Given the diet history, there is also concern for correlation with a grain free diet in light of recent reports. A diet change is certainly recommended as has been done as this is potentially the only treatable cause of these findings. A taurine level may be helpful as well, although supplementing taurine regardless of systemic levels is recommended as below. Finally, further systemic evaluation for underlying infiltrative contribution such as neoplasia may also be reasonable (abdominal ultrasound, tick titers, etc.) although considered unlikely.

Given a reported cough and severity of disease, recommend treatment for CHF as below. Depending on response, Hydrocodone can also be used if needed for quality of life.

As a complicating factor, the patient has also developed VPCs, with periods of trigeminy and multiform couplets. The appearance of the arrhythmia is concerning, and puts the patient at high risk for acute collapse and sudden death going forward.

Given that the patient is currently in crisis, no treatment for the VPCs is warranted at this time. It is important to note that this patient is at high risk for sustained VT/VF and sudden death going forward and anti-arrhythmic medications may be warranted in the future. Recommend a recheck ECG once the patient is stble on medications in 3-5 days and if persistent sotalol is recommended.

Prognosis is guarded to poor at this stage with most dogs succumbing to CHF in <6 months. There may be risk for recurrent congestive heart failure, malignant arrhythmias (AF, VT), collapse and/or sudden death in the future.

The BP is elevated and should be reassessed once the patient is stabilized.

RECOMMENDATIONS

- Institute heart muscle support Pimobendan (Vetmedin) 0.3mg/kg PO q12h.
- Adminster Lasix 2mg/kg PO q12h.
- Institute Spironolactone 1-2mg/kg PO q12h (available in 25 and 50mg tablets).
- Institute ACEI 0.5mg/kg PO q12h.
- Administer taurine supplement 1000mg PO q12h.
- Consider hydrocodone with homatropine, 0.2 – 0.4 mg/kg PO up to q4-6 hours PRN for cough (available in 5/1.5mg tablets or 5mg/5ml solution).
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Elective anesthesia is not advised.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF going forward.

PLAN

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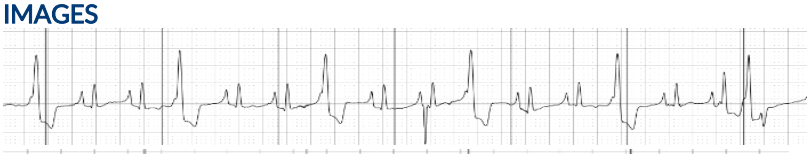
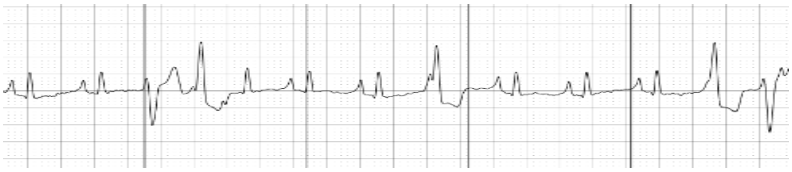
- Reassess BP and ECG in 3-5 days. If arrhythmia is similar/persistent, institute Sotalol 1-2mg/kg PO q12h. If BP is persistently elevated despite medications, consider ancillary vasodilation with amlodipine.
- Monitor renal values in 1-2 weeks, then every 3-4 months lifelong.
- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.
-

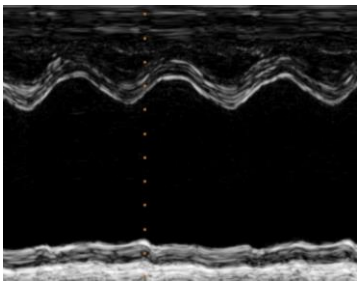
IMAGES

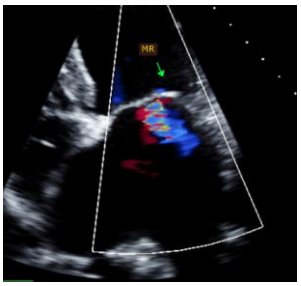


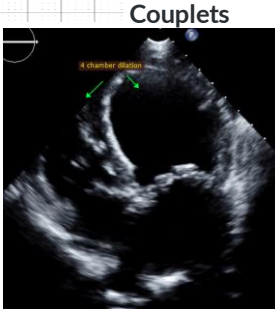
Trigeminy



Couplets







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)