



PATIENT

Bambi Lebeau

SPECIES

Canine

BREED

Mix

SEX

Female Spayed

AGE

11 years

WEIGHT

36lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY

Eduardo Rodriguez
III, RCS

HOSPITAL NAME

Wood River Animal
Hospital

REFERRING VET

Dr. Fischer

INVOICE

28468

DATE

1/20/23

PRESENTING CLINICAL SIGNS

History: Recheck echo. History chronic valvular disease -Stage B1. Needs mass removal. Currently also has kennel cough (PCR positive for parainfluenza and mycoplasma). Previously healthy otherwise. Grade III/IV murmur. Radiographs : very tall cardiac silhouette, enlarged atrium. Current meds: 1)Doxycycline 100mg-tab PO BID 2) Temaril P-2 tabs PO BID.
-Pertinent previous echo findings (11/2/20 MML): LA 2.6 cm, LA:Ao 1.29, LV3.45, normal LA size, mild MR, trace TR, mild AI. *Sedated with Torb.

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 90bpm (range 36-136bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. P and QRS morphologies are positive. Isolated VPCs are identified; singles only, monomorphic. No APCs or other dysrhythmias observed.
ECG diagnosis: Respiratory sinus arrhythmia with isolated VPCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is normal with decreased myocardial function. LV wall thicknesses are normal.
Left atrium: The left atrium is normal.
Mitral valve: The mitral valve is mildly thickened with minimal prolapse into the left atrial lumen. Mild eccentric mitral regurgitation.
Aortic valve/aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. Trivial 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 mildly thickened with mild tricuspid regurgitation. Velocity consistent with borderline hypertension.
Pulmonic 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)	2.1
LA diam (cm)	3.0
LA:Ao (Swe)	1.4
IVS thickness (cm)	0.9
LVID diastole (cm)	3.7
PW thickness (cm)	0.8
LVID systole (cm)	2.0
FS (%)	45

Doppler Measurements

PV Vmax (m/s)	0.77
AoV Vmax (m/s)	1.3
MR Vmax (m/s)	6.3
TR Vmax (m/s)	2.9
TR PG (mmHg)	33



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INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease persists without evidence of significant progression. Quantitatively the MR is stable without significant progression in left heart dimensions. The tricuspid leak is slightly increased comparatively with borderline pulmonary hypertension. No additional issues are noted in this study.

The ECG does show ventricular premature contractions (VPCs). VPCs are ectopic beats generated from abnormal conductive or fibrotic tissue in the ventricles of the heart muscle, and even frequent single VPCs will often cause no clinical signs in dogs. When sustained however, ventricular tachycardia can lead to symptoms such as lethargy and collapse. The underlying heart rate and rhythm is a respiratory sinus arrhythmia, likely secondary to sedation.

VPCs are a very non-specific finding. They can be primary in origin such as ARVC, be secondary to significant cardiac disease (mild in this study), or be extra-cardiac in origin, i.e., due to pain, stress, inflammation, cancer, GI disease, DIC/sepsis, etc. In this dog with only mild structural disease, all additional causes can be considered. An abdominal ultrasound to monitor for any underlying abnormalities, in addition to full lab work, etc. can be considered. Unfortunately, there is always an elevated risk for collapse and sudden death in any arrhythmic patient, and even on medications this risk unfortunately still persists.

Based strictly on the amount of arrhythmia seen in hospital, low markers of malignancy (such as polymorphism), and a lack of associated clinical signs at home, no anti-arrhythmic treatment is clearly indicated. Monitoring is advised in the future; particularly should any acute lethargy/collapse develop.

Continued assessment of progression in the future will help predict long term prognosis, which remains highly variable at this stage (B1). Serial echoes have showed stable disease which certainly reflects slow progression thus far.

RECOMMENDATIONS

- No cardiac medications are clearly indicated.
- Consider full systemic evaluation as discussed.
- Fish oil supplementation is recommended for dogs with arrhythmias (1000mg of omega 3 and 6 once to twice daily).
- Monitor at home for collapse, exercise intolerance, and/or lethargy.
- Anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

PLAN

- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs



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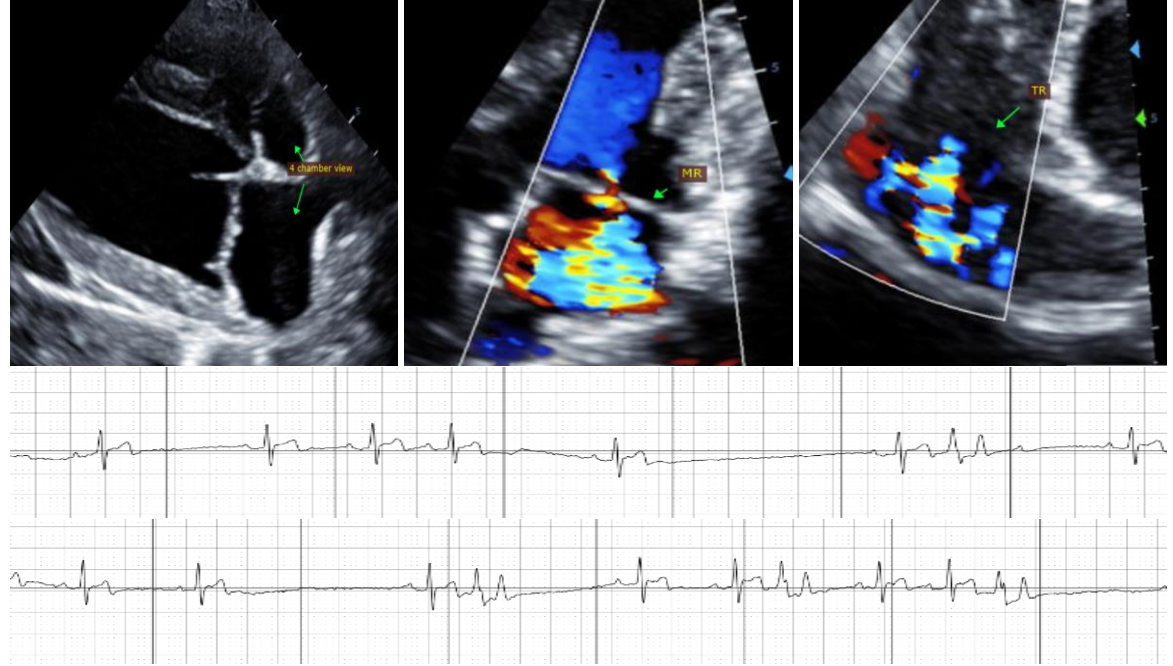
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IMAGES



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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.

IMAGING PERFORMED BY

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HOSPITAL NAME

Wood River Animal Hospital

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

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