



PATIENT

Buster Cunha

SPECIES

Canine

BREED

Mix

SEX

Male Neutered

AGE

11 years

WEIGHT

33.6lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan,
RDCS

HOSPITAL NAME

Rhode Island Animal
Medical Center

REFERRING VET

Dr. Hart

INVOICE

29084

DATE

2/17/23

PRESENTING CLINICAL SIGNS

History: Grade III-IV/VI heart murmur. Distended abdomen. BP: 160mmHg. *Having bi-cavity ultrasound studies.

-Abnormal PE/Chem/CBC/UA Results: TP 7.7, glob 3.6, ALT 43, LP 1572, BUN/Crea 28, Chol 563, Amy 1446, Neut 80, Lymph 9. Urine: Protein 4+, WBC 2-3, RBC 2-3.

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, 10mm/mV. The average heart rate is 120bpm (range 110-150bpm). 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 noted; monomorphic and singles only. Four in a 2-minute tracing. No supraventricular premature beats, pauses or other dysrhythmias observed.

ECG diagnosis: Normal sinus rhythm with 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. LV wall thicknesses are normal.

Left atrium: The left atrium is minimally dilated.

Mitral valve: The mitral valve is thickened with mild prolapse into the left atrial lumen. Mild to moderate 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 mildly thickened with mild tricuspid regurgitation. Normal velocity.

Pulmonic valve/pulmonary artery: The pulmonic valve is normal in morphology and mobility. Mild 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)	3.1
LA:Ao (Swe)	1.4
IVS thickness (cm)	0.9
LVID diastole (cm)	3.8
PW thickness (cm)	0.9
LVID systole (cm)	1.9
FS (%)	49

Doppler Measurements

PV Vmax (m/s)	0.7
AoV Vmax (m/s)	1.1
MR Vmax (m/s)	5.1
TR Vmax (m/s)	2.5
TR PG (mmHg)	25

INTERPRETATION OF THE FINDINGS

The cause of the murmur is chronic degenerative valve disease causing mild to moderate mitral and mild tricuspid regurgitation. Lack of significant left atrial enlargement indicates the current risk for complication is low. No concurrent issues such as systolic dysfunction



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or pulmonary hypertension are noted in this study. Prognosis is highly variable at this stage (B1).

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The ECG does confirm occasional 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.

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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 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.

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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.

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RECOMMENDATIONS

- No cardiac medications are clearly indicated.
- 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.

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PLAN

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

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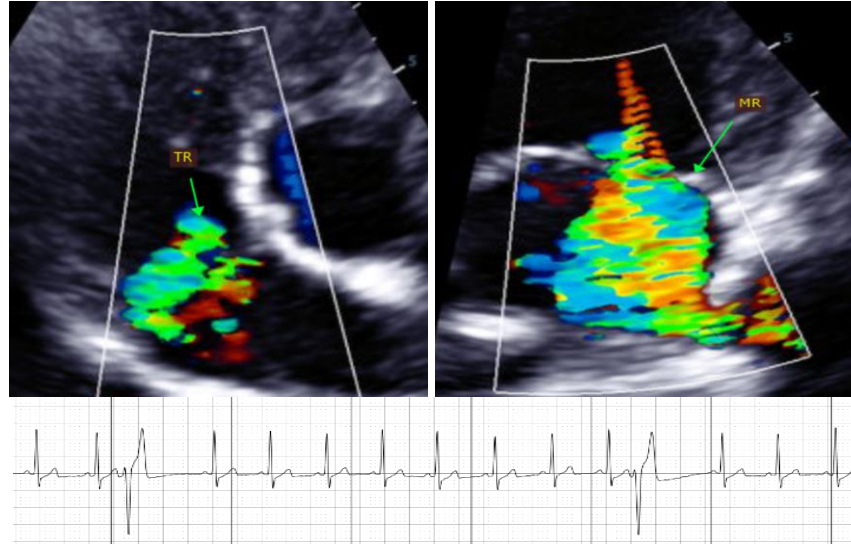
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IMAGES



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