



**PATIENT**  
Kana Massoud-Leroy

**SPECIES**  
Canine

**BREED**  
Pitbull Mix

**SEX**  
Female Spayed

**AGE**  
10 years

**WEIGHT**  
68.6lbs

**INTERPRETED BY**  
Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**IMAGING PERFORMED BY**  
Pamela Harrigan,  
RDCS

**HOSPITAL NAME**  
Mass Veterinary  
Services

**REFERRING VET**  
Dr. Masloski

**PRESENTING CLINICAL SIGNS**

History: Kana is referred for a heart murmur noted in December. Gags/coughs when she chews on things. When anxious, Kana is noted to have some labored breathing but not otherwise. She is presently eating well with normal activity. She has been on a grain free diet since adopted 8 years ago. On exam, a grade I-II/VI systolic murmur is heard. BP: 160mmHg x 3. \*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 rhythm is sinus in origin with an average heart rate of 176bpm. P for every QRS complex and vice versa. P and QRS morphologies are positive. Isolated VPCs throughout; monomorphic with an LBBB appearance. Nine in a 60 second tracing. No couplets, triplets or runs appreciated. No supraventricular 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 normal.

**Mitral valve:** The mitral valve is significantly thickened with mild prolapse into the left atrial lumen. Trace 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:** 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 normal with no tricuspid regurgitation.

**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)	2.4
LA diam (cm)	2.5
LA:Ao (Swe)	1.1
IVS thickness (cm)	1.0
LVID diastole (cm)	3.9
PW thickness (cm)	1.1
LVID systole (cm)	2.0
FS (%)	49

**Doppler Measurements**

PV Vmax (m/s)	0.93
AoV Vmax (m/s)	1.56
MR Vmax (m/s)	NM
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

**INTERPRETATION OF THE FINDINGS**

Chronic degenerative valve disease causing mitral valve thickening is identified. Interesting no significant mitral leak is appreciated to explain the murmur; however, the valve morphology is abnormal. Lack of significant left atrial enlargement indicates the current risk for complication is low. No additional issues are noted in this study. No evidence of diet-related cardiomyopathy; however, a diet change remains the conservative recommendation.

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**PATIENT**

Kana Massoud-Leroy

Prognosis is highly variable at this stage (B1).

**SPECIES**

Canine

The ECG does confirm isolated 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.

**BREED**

Pitbull Mix

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.

**SEX**

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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.

**WEIGHT**

68.6lbs

No cardiac cause for the cough is appreciated. Other possibilities should be explored.

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**RECOMMENDATIONS**

- No cardiac medications are clearly indicated.
- Consider full systemic evaluation as discussed.
- Diet change recommended.
- Further cough evaluation/treatment.
- 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 moderately elevated. Avoid ketamine, telazol, Dexdomitor (or other alpha-2 agonists) and acepromazine. Recommend having lidocaine CRI available for use in the event of worsening ventricular arrhythmias under anesthesia (CRI 50–75mcg/kg/min).

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Mass Veterinary Services

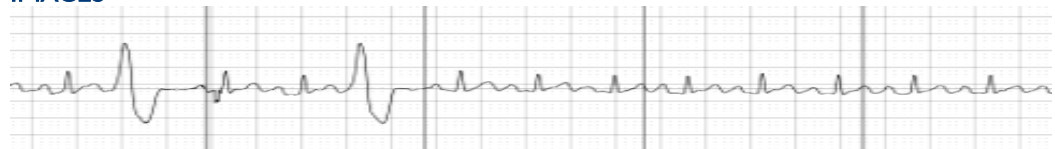
**PLAN**

- Recommend conservative monitoring with a recheck echocardiogram in 6-12 months, sooner if any development of clinical signs.

**REFERRING VET**

Dr. Masloski

**IMAGES**

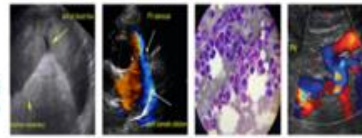


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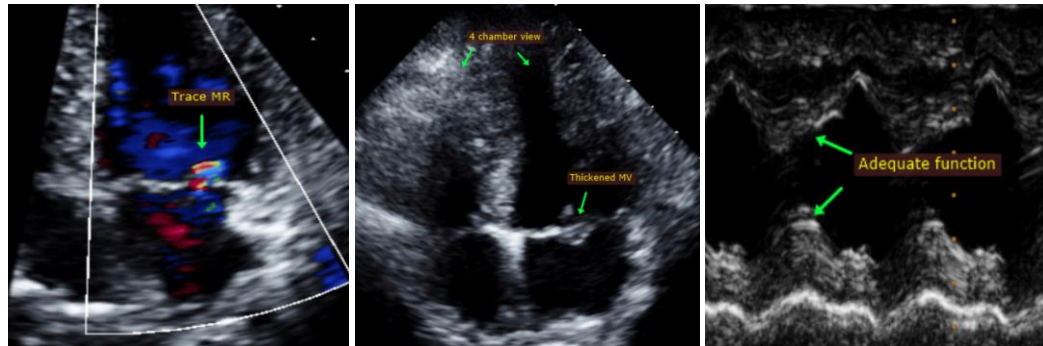
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)