



**PATIENT**  
Scoobert Hernandez

**SPECIES**  
Canine

**BREED**  
Great Dane Mix

**SEX**  
Female Spayed

**AGE**  
10 years

**WEIGHT**  
74lbs

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

**IMAGING PERFORMED BY**  
Pamela Harrigan,  
RDCS

**HOSPITAL NAME**  
Mass Veterinary Services

**REFERRING VET**  
Dr. Masloski

**INVOICE**  
23597

**DATE**  
4/12/22

**PRESENTING CLINICAL SIGNS**

History: Recheck echo. History chronic valvular disease with mild progression noted on prior echocardiogram. Current presentation: Scoobert is doing well at home. She is eating well with normal activity. On auscultation: NSR, grade III/VI murmur with PMI left apical area, PSS, lung fields clear. BP: 220mmHg x 5. Medications: Pimobendan/vetmedin 10mg 1 tab twice a day. -Pertinent previous echo findings (9/21/21 MML): LA 4.0 cm; LA:Ao 1.74; LV 5.2 cm; moderate LAE; moderate MR; mild TR (2.9 m/s; 34 mmHg; early PAH.

**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 underlying rhythm is sinus in origin with an average heart rate of 140bpm (range 115-150bpm). P for every QRS complex and vice versa. P morphology is positive. The QRS is inverted. Isolated VPCs throughout. Singles only; however, periods of bigeminy are noted. Some polymorphism exists. No supraventricular premature beats, pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm with isolated VPCs. Periods of ventricular bigeminy.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and Doppler imaging is available.

**Left ventricle:** The LV diameter is mildly increased with adequate function. LV wall thicknesses are normal.

**Left atrium:** The left atrium is moderately dilated.

**Mitral valve:** The mitral valve is mildly thickened with no prolapse into the left atrial lumen. Moderate 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 mildly thickened with mild tricuspid regurgitation. Normal velocity.

**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)	2.6
LA diam (cm)	4.3
LA:Ao (Swe)	1.7
IVS thickness (cm)	0.9
LVID diastole (cm)	5.2
PW thickness (cm)	0.9
LVID systole (cm)	2.3
FS (%)	56

**Doppler Measurements**

PV Vmax (m/s)	0.6
AoV Vmax (m/s)	1.2
MR Vmax (m/s)	5.7
TR Vmax (m/s)	2.6
TR PG (mmHg)	27

**INTERPRETATION OF THE FINDINGS**

Chronic degenerative valve disease persists with overall stability. While the LA is mildly increased comparatively, the remainder of the dimensions and function are unchanged. No concurrent issues are identified, and the systolic function remains intact.



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Given these findings, continue Pimobendan as previously recommended. Continued assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (B2).

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Isolated VPCs with periods of bigeminy are noted on the ECG, which is a new finding. 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 (arrhythmic disease; a rule out diagnosis), develop secondary to significant cardiac disease (present in this case), or be extra-cardiac in origin, i.e., due to pain, stress, inflammation, cancer, GI disease, DIC/sepsis, etc. In this senior dog with structural cardiac disease, this is likely related. 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.

**AGE**

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In addressing arrhythmias in dogs, we must not only consider why they are happening as above, but also whether or not treatment is warranted. Given low markers of malignancy, consider application of a holter monitor prior to determining if therapy is warranted. If a holter is declined, I would err on the side of caution due to the risk for sudden death and institute Sotalol therapy in this patient. Discussion with the owner is advised.

**WEIGHT**

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**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**RECOMMENDATIONS**

- Continue Pimobendan as prescribed.
- Consider holter monitor as discussed. If declined or not possible, consider institution of Sotalol 1-2mg/kg PO q12h.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Anesthesia is not advised until the arrhythmia is further evaluated.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**PLAN**

- Recommend recheck ECG and echocardiogram in 6 months, sooner if clinical signs arise in the interim.

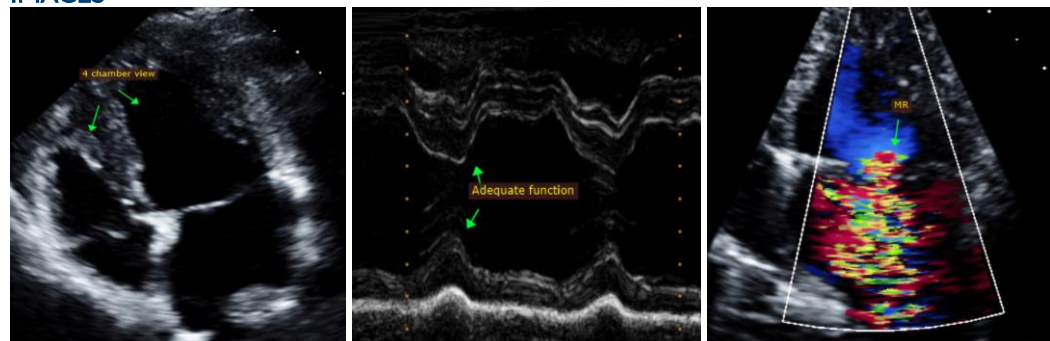
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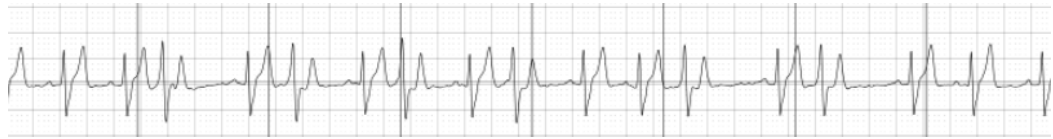
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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Great Dane Mix

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.

**SEX**

Female Spayed

Maggie Machen Lamy, DVM  
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)  
info@sonopath.com

**AGE**

10 years

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

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