



PATIENT

Lloyd Smolan

SPECIES

Canine

BREED

Dachshund

SEX

Male Neutered

AGE

12 years

WEIGHT

14.4lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan,
RDCS

HOSPITAL NAME

Wood River Animal
Hospital

REFERRING VET

Dr. Fischer

INVOICE

30386

DATE

4/21/23

PRESENTING CLINICAL SIGNS

History: Grade III/VI holosystolic murmur present for 2 years. Rechecking CBC upon presentation. If still abnormal would like to do bicavity. Remainder of lab work unremarkable, 4DX negative, clinically normal other than need for dental prophylaxis with extractions. On Melatonin 6mg- 1/2 tab PO QD. Having bi-cavity ultrasounds.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 10mm/mV. The average heart rate is 100bpm (range 75-120bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. Isolated VPCs are identified; singles only and relatively rare in occurrence. A single APC is suspected. No pauses or other dysrhythmias observed.

ECG diagnosis: Normal sinus rhythm with respiratory variation. Isolated VPCs and a single APC.

ECHOCARDIOGRAM FINDINGS

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

Left ventricle: The LV diameter is borderline with adequate myocardial function. LV wall thicknesses are normal.

Left atrium: The left atrium is moderately dilated.

Mitral valve: The mitral valve is mildly thickened with mild prolapse into the left atrial lumen. Moderate to severe eccentric mitral regurgitation. 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: No RV dilation.

Right atrium: No RA dilation.

Tricuspid valve: The tricuspid valve is normal with trace tricuspid regurgitation; normal velocity.

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.

Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	1.4
LA diam (cm)	2.4
LA:Ao (Swe)	1.7
IVS thickness (cm)	0.9
LVID diastole (cm)	2.7
PW thickness (cm)	0.7
LVID systole (cm)	1.4
FS (%)	45

Doppler Measurements

PV Vmax (m/s)	0.6
AoV Vmax (m/s)	1.3
MR Vmax (m/s)	5.0
TR Vmax (m/s)	2.7
TR PG (mmHg)	30

INTERPRETATION OF THE FINDINGS

The cause of the murmur is chronic degenerative valve disease causing moderate to severe mitral and trace tricuspid regurgitation. Moderate left atrial enlargement indicates the current risk for complication is low; however, there is high risk for progression going



PATIENT

Lloyd Smolan

forward. No concurrent issues such as systolic dysfunction are noted in this study. Assessment of progression in the future will help predict long term prognosis, which is guarded at this stage (B2). Pimobendan is recommended as below based upon the results of the EPIC trial.

SPECIES

Canine

Isolated VPCs are noted on the ECG as well. 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

Dachshund

SEX

Male Neutered

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, or be extra-cardiac in origin; i.e., due to pain, stress, inflammation, cancer, GI disease, DIC/sepsis, etc. In this senior dog with moderate structural cardiac disease, they are likely due to stress and atrial dilation; however, ruling out systemic issues is reasonable (senior labs, AUS, etc.).

AGE

12 years

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.

WEIGHT

14.4lbs

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 the mild nature of the arrhythmia, consider application of a holter monitor if interested in further evaluation. This will tell us the frequency and complexity of the rhythm over 24 hours of normal activity. An alternative approach would be to simply monitor at home for symptoms and utilize a holter monitor should the patient begin to experience clinical signs such as lethargy or collapse, which is also reasonable. No obvious indication for anti-arrhythmic therapy based upon what is seen here. Discussion with the owner is advised.

INTERPRETED BY

Maggie Machen
 Lamy, DVM
 DACVIM (Cardiology)

RECOMMENDATIONS

- Institute Pimobendan 0.25-0.3mg/kg PO q12h.
- Consider holter monitor v monitor at home.
- Consider systemic screening as discussed.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit
- 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). Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 cage. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Moderate IV fluid restriction is recommended to avoid fluid overload, while considering comorbidities, hydration status, BP, etc.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

IMAGING PERFORMED BY

Pamela Harrigan,
 RDCS

HOSPITAL NAME

Wood River Animal
 Hospital

REFERRING VET

Dr. Fischer

INVOICE

30386

DATE

4/21/23



PATIENT

Lloyd Smolan

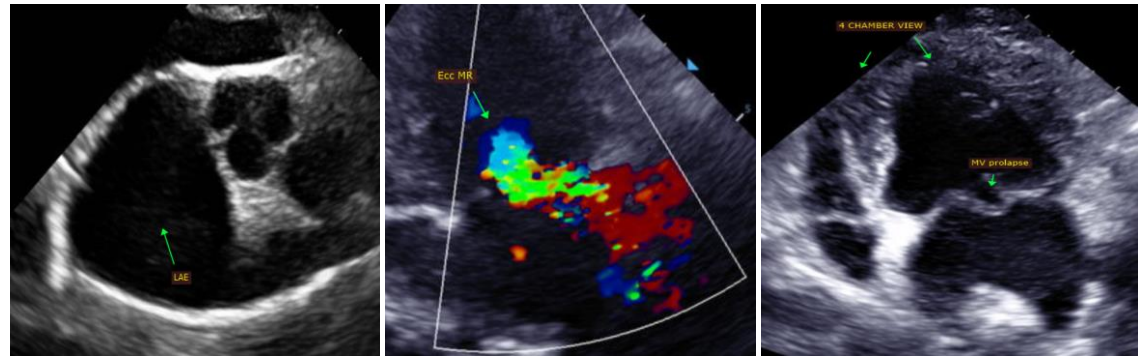
PLAN

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

SPECIES

Canine

IMAGES



BREED

Dachshund

SEX

Male Neutered

AGE

12 years



WEIGHT

14.4lbs

INTERPRETED BY

Maggie Machen Lamy, DVM
 DACVIM (Cardiology)

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

Pamela Harrigan, RDCS

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.

HOSPITAL NAME

Wood River Animal Hospital

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

REFERRING VET

Dr. Fischer

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

INVOICE

30386

DATE

4/21/23