



Portable Animal Western Sonography, Inc.

IMAGING PERFORMED BY

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PATIENT

Ellie Lopez

SPECIES

Canine

BREED

Border Collie Mix

SEX

FS

AGE

11 years

WEIGHT

52.8lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Loetitia St-Jacques,
LVT/RVT

HOSPITAL NAME

Valley Veterinary
Clinic

REFERRING VET

Dr. Lopez

INVOICE

26231

DATE

9/6/22

PRESENTING CLINICAL SIGNS

History: Waxing and waning FUO (103.8-104.0), severe lethargy, weakness, anorexia and weight loss. Hx of severe weight loss, inappetence and PU/PD. She was diagnosed with Cushings, however had a very severe reaction to treatment (Trilostane) and has been managed on low dose prednisone every other day. Her clinical signs had resolved. On August 28th 2022 she started acting lethargic and not interested in food, she had a fever of 104.0 that night and was unable to stand or go to the bathroom. She slowly recovered over the next few days and all clinical signs relapsed (including fever) on Sept 5th. Ellie also has a hx of waxing and waning gastritis like signs. Incidental arrhythmia noted.

Radiographic Abnormalities: Enlarged liver present, loss of serosal detail throughout Current Therapy and Medications: SQ fluids at home 10mg Prednisolone twice daily Cerenia injection as needed Albon- No sedation

Abnormal PE/Chem/CBC/UA Results: ALP 694 H (5-131) T4 0.5 L (0.8-3.5)T4 ED 15.7 (8-40) WNL
CBC Lymphocytes 6237 690-4500 / μ L LOW

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 50mm/s; 10mm/mV. The average heart rate is 100bpm (range 75-110bpm). Rare sequential sinus beats. The underlying 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 throughout in a bigeminal rhythm. Singles only. No supraventricular ectopic beats, pauses or other dysrhythmias observed.

ECG diagnosis: Normal sinus rhythm with respiratory variation. Ventricular bigeminy.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The ECG confirms the arrhythmia is due to frequent ventricular premature contractions (VPCs). VPCs are 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 animals (as is seen here). When sustained however, ventricular tachycardia can lead to symptoms such as lethargy and collapse, and ultimately can cause fibrillation and sudden death.

When addressing arrhythmias, two things must be considered; 1. Is an underlying cause evident or is this primary arrhythmic disease? And 2. Is anti-arrhythmic therapy warranted?

VPCs are a very non-specific finding. They can be due to significant cardiac disease or be extra-cardiac in origin; ie due to pain, stress, inflammation, cancer, GI disease, DIC/sepsis, etc. **In this senior dog with systemic illness, this is suspected to be secondary.** Cardiac disease should be ruled out through an echocardiogram; however, is considered less likely.

Electing to treat arrhythmias is based upon clinical signs and amount/degree of arrhythmia identified. 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. Even with ventricular bigeminy present, this alone is unlikely to cause significant lethargy/clinical signs which are likely due to the FUO.

Based strictly upon the amount of arrhythmia present on the available ECG, anti-arrhythmic therapy is not clearly indicated. The frequency is certainly concerning, however there are no additional markers of malignancy present (polymorphism, couplets, etc). In addition to continued systemic evaluation, a holter monitor would be ideal to understand the true extent. If declined or not possible, I would err on the side of treating the arrhythmia at least until systemic disease has



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resolved. It is important to understand that without further information such as systolic function assessment it is difficult to proceed safely.

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Monitor at home for collapse, exercise intolerance, and/or cough. Mild activity restriction is advised in arrhythmic patients.

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Anesthesia is not advised prior to further evaluation/treatment. Sedation with butorphanol is typically safe if needed.

SEX

FS

Plan: Highly recommend echocardiogram and holter monitor. If declined, consider cautious institution of sotalol 1mg/kg PO q12h.

Reassess ECG 1-2 weeks later to assess response (ie resolution or at least dramatic improvement in the frequency of the arrhythmia would be expected).

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A recheck ECG is recommended in 6 months to assess for progression, sooner if syncope/lethargy develops in the interim.

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IMAGES



Bigeminy

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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

Loetitia St-Jacques,
LVT/RVT

Thank you for this referral. 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

Valley Veterinary
Clinic

Maggie Machen Lamy, DVM

Diplomate of the American College of Veterinary Internal Medicine (Cardiology)

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