


**PATIENT**

Zwina Lemieux

**PRESENTING CLINICAL SIGNS**

 History: Restless, panting episodes, high heart rate, no episodes since Sunday visible to owner.  
 Abnormal PE/Chem/CBC/UA Results: CXR: NSF. Fast scan-NSF

**SPECIES**

Canine

**BREED**

Great Dane

**SEX**

FI

**AGE**

4 years

**WEIGHT**

55kgs

**INTERPRETED BY**

 Maggie Machen Lamy,  
 DVM, DACVIM  
 (Cardiology)

**IMAGING PERFORMED BY**
**HOSPITAL NAME**

VanIsle VH

**REFERRING VET**

Dr. McFarlen

**INVOICE**

29028

**DATE**

2/15/23

**HOLTER MONITOR FINDINGS AND RHYTHM ASSESSMENT**

Time analyzed	23:34h
Mean heart rate	75bpm
Maximum heart rate	234bpm
Minimum heart rate	52bpm
VPCs	0
APCs	34; 2 singles, 1 pair, 6 brief runs

Interpretation: Underlying normal sinus rhythm with appropriate rate variation. Frequent sinus tachycardia with activity (up to 220bpm), with warm up/cool down periods appreciated. Occasional brief Atrial Tachycardia is noted (AT); acute increase in heart rate with acute termination. Max HR is briefly 270bpm. Appears primarily to occur with activity. No VPCs or other dysrhythmias are observed.

Rhythm diagnosis: Sinus rhythm with significant heart rate variability and frequent sinus tachycardia. Occasional brief salvos of AT.

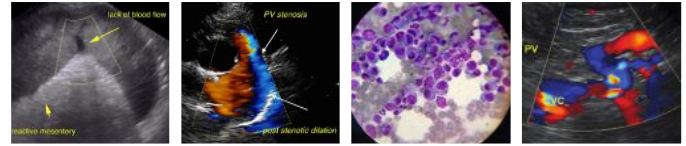
**RECOMMENDATIONS**

The majority of the tracing is unremarkable with normal heart rate and rhythm. The patient does have significant sympathetic drive, with periods of sinus tachycardia throughout (a normal finding). What is concerning is there are brief paroxysms of SVT/atrial tachycardia which are unusual to see. The longest run is 13 beats in length, suggesting this is not a sustained issue. No VPCs or other abnormalities are appreciated.

AT is an umbrella term indicating a narrow complex tachycardia arising from within the atrial tissue. AT tends to be more benign than a ventricular tachycardia; however, sustained AT can lead to signs such as lethargy or collapse. That being said, the overall findings in this holter are mild and non-sustained overall. While a primary arrhythmic issue may be possible, an echocardiogram is suggested to rule out an atrial myopathy or other causes of atrial dilation in this breed predisposed to cardiomyopathy. Additionally systemic evaluation can be considered in search of any alternative causes that may be brewing.

Unfortunately none of the restless/panting episodes were noted in the diary, and it remains unclear if these brief periods of tachycardia are related. Sinus tachycardia can also have significantly elevated HR as is seen here, and may explain what the owner is seeing at home with a rapid HR. Going forward, there are two options of how to proceed. Given a lack of concrete information and correlation, the first option would be to simply recheck the heart rhythm in 6 months, sooner if any syncope or acute lethargy are noted in the interim. An alternative option would be to consider starting diltiazem based upon mild possibly related clinical signs and a mild abnormality. The only downside is we may be starting a lifelong medication without a clear necessity, and the medication is q8 hour dosing. Discussion with the owner is advised.

Omega fatty acid supplementation may be of some long term benefit in arrhythmic animals. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.



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Plan: Consider an echocardiogram and systemic evaluation as discussed. Consider monitor v treat with diltiazem. If the latter is elected, institute Diltiazem 1-2mg/kg PO q8h and reassess a holter in 2-4 wees.

**SPECIES**

Canine

If monitoring is elected, reassess a holter in 6 months, sooner if any worsening in clinical signs.

**BREED**

Great Dane

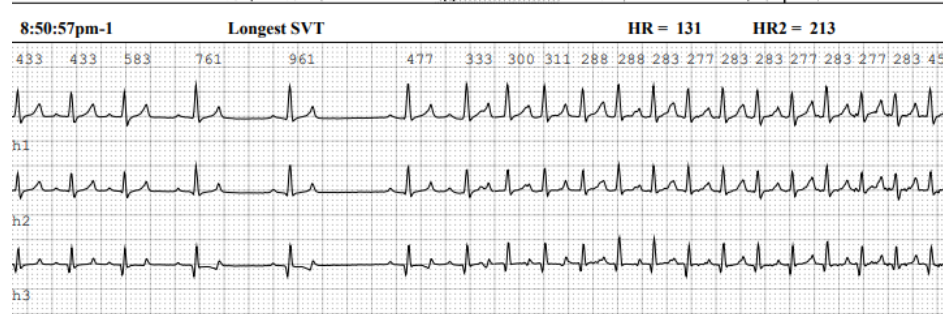
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**IMAGES**



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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**

**HOSPITAL NAME**

VanIsle VH

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.

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

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