



**PATIENT**

Josie Wehling

**PRESENTING CLINICAL SIGNS**

History: Intermittent syncope. Diary suggest episodes occur with coughing.

**SPECIES**

Canine

**HOLTER MONITOR FINDINGS AND RHYTHM ASSESSMENT**

**BREED**

Pomeranian

Time analyzed	23:50h
Mean heart rate	75bpm
Maximum heart rate	183bpm
Minimum heart rate	41bpm
VPCs	1; 1 escape
APCs	7 singles

**SEX**

FS

Interpretation: Underlying normal sinus rhythm with appropriate rate variation. Significant pause at 3:16pm; 6.85s; no other pauses noted. Rare APCs; singles only. A single VPC is identified. No additional abnormalities are visualized.

**AGE**

2011

Rhythm diagnosis: Sinus rhythm with a single inappropriate pause. Occasional APCs.

**WEIGHT**

11.6 lbs

**RECOMMENDATIONS**

Interesting case. The main finding is a nearly 6s pause noted at 3:16pm. No information is provided on the diary at this time, and correlation with sleep versus awake would be helpful. When this is seen in dogs, this is most consistent with sinus node dysfunction (i.e. sick sinus syndrome). Pauses can certainly cause syncopal episodes as the primary symptom; however, these are typically independent of cough and occur randomly particularly with activity.

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

The primary clinical issue in this dog is cough-associated syncope, which is assumed to reflect vasovagal events. The patient did have two episodes with the Holter in place (noted at 3:40pm and 5:20am); however, a significant pause does not appear to be associated with the events. This likely suggests that the episodes are truly due to vasovagal syncope, while the patient also appears to have sinus node dysfunction.

**IMAGING PERFORMED BY**

Going forward our options for treatment are limited. Given that the primary complaint is syncope associated with coughing, hydrocodone or an alternative cough suppressant is recommended as below. Theophylline can also be utilized as needed for the wheezing symptom. Avoidance is also key, particularly given the situational component as able. Additionally an echo is recommended to rule out concurrent pulmonary hypertension as an issue.

**HOSPITAL NAME**

Mazomanie AH

Treatment for extended pause(s) is even more limited, with theophylline or an alternative HR stimulant the only medical option (and often of limited benefit). Transvenous pacemaker implantation can be considered, particularly should the episodes increase in frequency and be confirmed to also be related to sinus pauses. Most patients with progressive sinus node dysfunction will also exhibit overall lethargy and exercise intolerance due to bradycardia. Continued monitoring at home as advised.

**REFERRING VET**

Dr. Howlett

**INVOICE**

25793

Plan: Consider hydrocodone with homatropine, 0.2 - 0.4 mg/kg PO up to q4-6 hours PRN for cough (available in 5/1.5mg tablets or 5mg/5ml solution). Up-titrate to effect with the goal of balancing cough suppression and avoiding lethargy. Can also trial theophylline, etc with CXR recommended. An echo is recommended to screen for PAH.

**DATE**

8/16/22



**PATIENT**

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If the episodes progress and/or occur independent of the cough symptom, recommend referral to a local Cardiologist for imaging and surgical consultation.

**SPECIES**

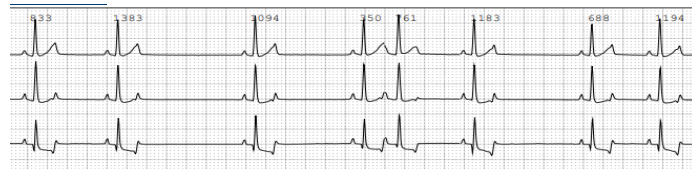
Canine

If patient does well at home, recommend a recheck holter in 6 months.

**BREED**

Pomeranian

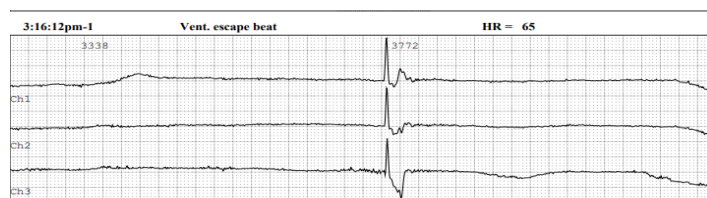
**IMAGES**



Occ APCs

**SEX**

FS



Sinus arrest with escape

**AGE**

2011

**WEIGHT**

11.6 lbs

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.

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

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

**IMAGING PERFORMED BY**

**HOSPITAL NAME**

Mazomanie AH

**REFERRING VET**

Dr. Howlett

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