SonoPath
Clinical Sonography & Telecytology

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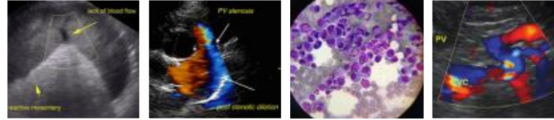


ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND

IMAGING PERFORMED BY

AnimalSoundsNW.com 541-357-9423

PATIENT
Duffy Osborne

SPECIES
Canine

BREED
Lab

SEX
Male Neutered

AGE
6 years

WEIGHT
76.6lbs

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

IMAGING PERFORMED BY
Sara Hansen, SDEP
Clinical Sonographer

HOSPITAL NAME
Orchard View VC

REFERRING VET
Dr. Rowland

INVOICE
28406

DATE
1/17/23

PRESENTING CLINICAL SIGNS

History: Abnormal rhythm during auscultation, HR held at 50 and when P excited in room/ran around rhythm remained abnormal with runs of HR=200 and then back to 50, suspect ventricular escape rhythm, no obvious murmur heard.
Abnormal PE/Chem/CBC/UA Results: Current Medications Trifexis

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; 50mm/s, 10mm/mV. The average heart rate is 110bpm (range 97-136bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. Isolated VPCs throughout; 6 in a 13s tracing. Monomorphic, singles only. No supraventricular ectopic beats, pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with respiratory variation. Isolated monomorphic VPCs.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The ECG confirms the arrhythmia appreciated is due to 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 dogs. When sustained however, ventricular tachycardia can lead to symptoms such as lethargy, collapse and sudden death.

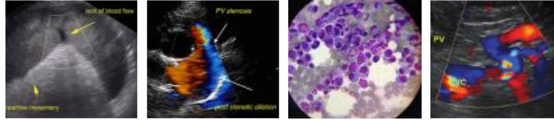
VPCs are a very non-specific finding. They can be primary in origin (ie arrhythmic disease such as ARVC or DCM), or develop secondary to significant cardiac or extra-cardiac disease ie due to pain, stress, inflammation, cancer, GI disease, DIC/sepsis, etc. All differentials should be ruled out. The first step would be an echocardiogram to assess cardiac structure and function. Pending results (ie if normal), an abdominal ultrasound and full systemic evaluation is recommended to monitor for any underlying abnormalities.

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.

Based strictly upon the amount of arrhythmia present on the available ECG (only single VPCs are identified), anti-arrhythmic therapy is not clearly indicated. That being said, the frequency is concerning, and a holter monitor is recommended as the gold standard to allow monitoring of the rhythm throughout 24 hours of a normal day and help understand the true extent of the abnormality and determine if treatment is indicated. This should be considered especially should the patient develop clinical signs in the future such as syncope. If this is not possible or declined, an extended tracing may be beneficial (the submitted sample is only 13s in length). Periods of tachycardia are noted in the history, which are unfortunately not captured here. It is important to understand if these are sinus in origin (ie brief normal sinus tachycardia), or if VT is present intermittently. The former is suspected in an asymptomatic patient.

If needed, anesthetic risk is moderately elevated and further evaluation is recommended prior to proceeding. Anesthetic protocol should avoid ketamine, telazol, and/or alpha 2 agonists. Careful monitoring of ECG/blood pressure is highly recommended with intervention as needed (ie sustained tachyarrhythmias).

Fish oil supplementation is recommended for dogs with arrhythmias (500-1000mg of omega 3 and 6 once to twice daily).



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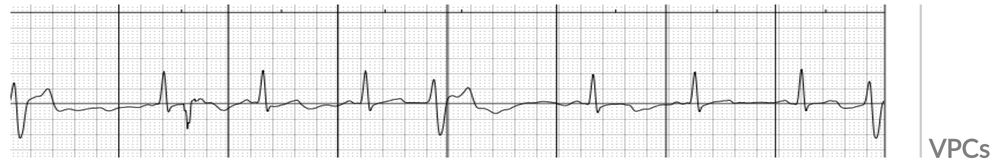
Monitor at home for collapse, exercise intolerance, and/or lethargy. If a holter monitor is elected, this will dictate whether therapy is needed and follow up protocol.

Plan: Consider extended ECG/holter monitor/echo/systemic evaluation as discussed.

A recheck ECG is recommended in 4-6 months, sooner if symptoms of cardiac disease arise (cough, labored breathing, syncope, etc).

IMAGES



VPCs

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.

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