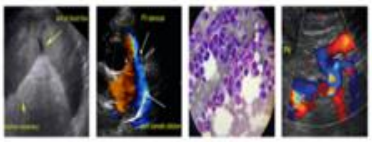
Mass Veterinary Services



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Ollie Ayvas

SPECIES
Canine

BREED
Cavalier

SEX
Male Neutered

AGE
5 years

WEIGHT
22.7lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
28816

DATE
2/7/23

PRESENTING CLINICAL SIGNS

History: Recheck echo. History chronic valvular disease - Stage B1. Presently, Ollie has been having some reverse sneezing presumed to be allergy related. He is eating well and maintains normal activity. He is due for dental work. On exam: NSR, grade II/VI murmur with PMI left apical area, PSS, lung fields clear, mm pink, moist, CRT<2. BP: 160-170mmHg. Currently, no cardiac medications. *No sedation for study.
-Pertinent previous echo findings (3/2/22 MML): LA 2.0 cm; LA:Ao 1.3; LV 2.9 cm; normal LA./LV sizes; mild MR; mild TR (2.4 m/s).

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; 25mm/s, 10mm/mV. The average heart rate is 100bpm (range 55-150bpm). The rhythm is sinus in origin, with a p for every QRS complex. P and QRS morphologies are positive. Occasional 2nd degree AV block is appreciated with two blocked P waves in a 2-minute tracing. No obvious prolongation of the PR interval is appreciated, most consistent with type II. No premature beats, pauses or other dysrhythmias observed.
ECG diagnosis: Respiratory sinus arrhythmia with occasional 2nd degree AV block (type II).

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV is mildly dilated with adequate myocardial function. LV wall thicknesses are normal.
Left atrium: The left atrium is normal.
Mitral valve: The mitral valve is mildly thickened with minimal prolapse into the left atrial lumen. Mild to moderate eccentric mitral regurgitation with a normal velocity.
Aortic valve/aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. Trace aortic insufficiency.
Right ventricle: Normal right ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension.
Right atrium: Normal RA dimension.
Tricuspid valve: The tricuspid valve appears normal with mild tricuspid regurgitation; normal velocity.
Pulmonic valve/pulmonary artery: The pulmonic valve is normal in morphology and mobility. Mild pulmonic insufficiency. Normal RVOT velocity; laminar flow.

2-Dimensional Measurements

Ao diam (cm)	1.8
LA diam (cm)	2.6
LA:Ao (Swe)	1.4
IVS thickness (cm)	0.8
LVID diastole (cm)	3.3
PW thickness (cm)	0.8
LVID systole (cm)	2.1
FS (%)	36

Doppler Measurements

PV Vmax (m/s)	0.73
AoV Vmax (m/s)	1.3
MR Vmax (m/s)	6.4
TR Vmax (m/s)	2.7
TR PG (mmHg)	30

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INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease persists with evidence of mild progression. Previously normal left heart dimensions are now mildly dilated; however, the disease remains within the mild/B1 category. A small aortic leak is noted, and routine blood pressure monitoring is recommended. No additional issues are identified.

The ECG does show an arrhythmia, which is consistent with low grade 2nd degree AV block. This implies that there are rare non-conducted P waves; however, never more than one in a row. Type II block is suspected on this tracing, which implies the PR interval does not elongate prior to the block. This is more concerning than type I block, which is due to high vagal tone. What is seen here is unlikely to cause clinical signs.

Further evaluation is advised through an atropine challenge (administer 0.04mg/kg atropine IV or IM and assess response), particularly prior to anesthesia. If the response is normal (heart rate doubles and maintains for 10-15 minutes) high vagal tone is at least part of the issue, which is a benign cause. High vagal tone can be a normal variant or be secondary to a variety of systemic issues such as neurologic or respiratory disease. If the atropine challenge is normal, consider further evaluation for causes of high vagal tone. An abnormal response would indicate electrical dysfunction, and a holter monitor and/or referral should be considered certainly prior to anesthesia.

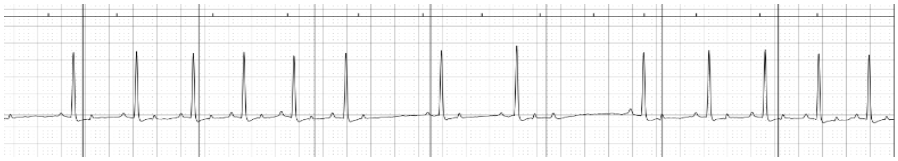
RECOMMENDATIONS

- Atropine challenge and follow up as discussed.
- No cardiac medications are clearly indicated.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Pending a normal atropine challenge, anesthetic risk is low; however, premedicating with atropine is recommended with monitoring of HR/BP throughout the procedure. An atypical atropine response would confer a high risk for anesthesia and is not recommended.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

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

IMAGES



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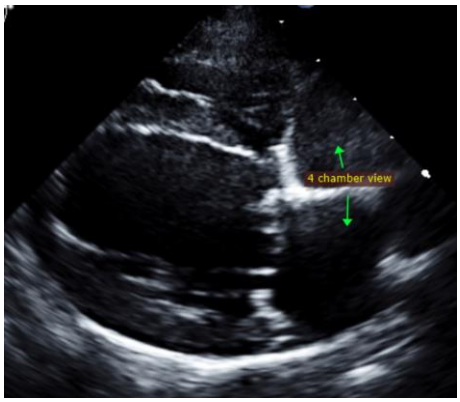

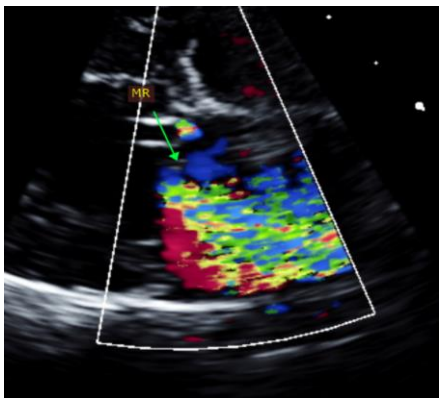

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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