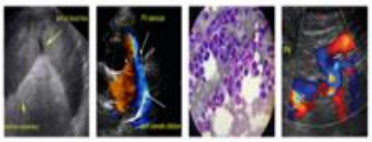
Mass Veterinary Services



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

PATIENT
Madison Frazier

SPECIES
Canine

BREED
Cocker Spaniel

SEX
Female Spayed

AGE
14 years

WEIGHT
29.8lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
23349

DATE
3/30/22

PRESENTING CLINICAL SIGNS

History: Madison was noted to have a heart murmur earlier this month when she was seen for otitis externa. Last night, after voiding/defecting she became very dizzy with a head tilt and circling noted. She did receive claro two weeks ago and was on an antibiotic and steroid for her ears. She was given some meclizine last night and does seem a bit better this morning but still has the head tilt and circling; however, she is able to walk. No vomiting but did have soft stool. No C/S/V/PU/PD. History of elevated hepatic enzymes. On auscultation: arrhythmia, grade II/VI murmur with PMI left apical area, PSS, lung fields clear. BP: 220mmHg; panting (240). *No sedation for study.

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, 20mm/mV. The average heart rate is 70bpm (range 60-83bpm). The rhythm is sinus in origin. Frequent sinus pauses with escape foci firing. Occasional APCs are suspected. No ventricular premature beats or other dysrhythmias observed.
ECG diagnosis: Sinus bradycardia with sinus pauses and escape foci. Rule out high vagal tone versus sick sinus syndrome. Occasional APCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is borderline with adequate myocardial function. LV wall thicknesses are normal.
Left atrium: The left atrium is mild to moderately enlarged.
Mitral valve: The mitral valve is diffusely thickened with no prolapse into the left atrial lumen. Mild mitral regurgitation.
Aortic valve/aorta: The aortic valve is normal in morphology and mobility. Mildly elevated 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 no tricuspid regurgitation.
Pulmonic valve/pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow.
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	1.6
LA diam (cm)	2.6
LA:Ao (Swe)	1.6
IVS thickness (cm)	0.96
LVID diastole (cm)	3.8
PW thickness (cm)	0.96
LVID systole (cm)	2.0
FS (%)	47

Doppler Measurements

PV Vmax (m/s)	1.1
AoV Vmax (m/s)	2.5
MR Vmax (m/s)	NM
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

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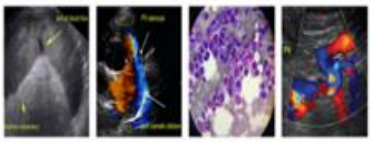

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INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease causing mild mitral regurgitation is identified. Mild to moderate left atrial enlargement indicates there may be risk for complications going forward, although current risk is no. A small aortic leak is noted which is significant in light of reported high blood pressure. No additional issues are identified.

High blood pressure is noted in the history, which should be further investigated. If this is thought to be real finding, treatment may be warranted depending on clinical status.

The ECG is most consistent with high vagal tone; however, sinus node dysfunction/SSS is certainly not ruled out. High vagal tone can cause brief sinus pauses which in this patient are resulting in an escape focus firing. This is considered an appropriate response to bradycardia, rather than a pathologic finding. **This can develop secondary to neurologic disease, which may be relevant in this case (consider Cushing reflex if applicable).** All that being said, this particular signalment is predisposed to sinus node dysfunction (such as sick sinus syndrome), which may also be at play. Given the asymptomatic status (i.e., no syncope noted), I would not recommend further evaluation at this time. If and when the neurologic issues resolve, reassessing the ECG is recommended to determine if bradycardia is persistent. In this instance, an atropine challenge and potentially a holter monitor would be the reasonable next step.

Prognosis is guarded prior to further evaluation. Continued assessment of progression is recommended.

RECOMMENDATIONS

- Consider possible causes of SHT if thought to be a real pathologic reading.
- If indicated, institute Amlodipine to effect as discussed and reassess BP in 1-2 weeks; target <160mmHg.
- Reassess ECG once the patients' neurologic symptoms have resolved, as an atropine challenge and/or holter monitor may be indicated if findings are persistent.
- Reassess ECG on an emergent basis should the patient develop any syncopal episodes.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Anesthesia is not advised prior to further arrythmia evaluation.
- No obvious indication for cardiac medications at this time.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

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

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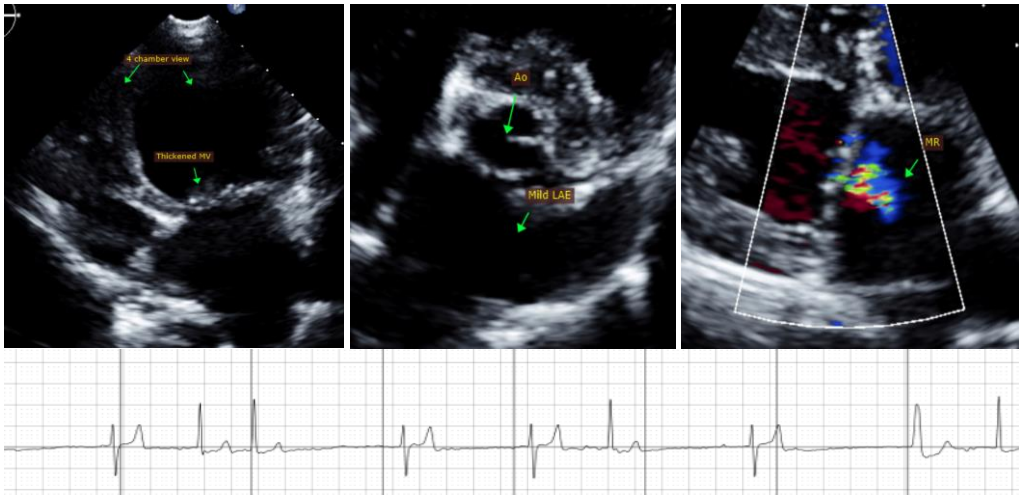

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)