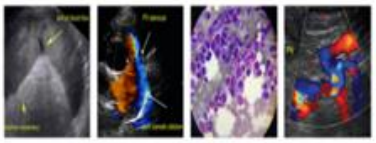
Mass Veterinary Services



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

PATIENT
Sparta Hageman

SPECIES
Feline

BREED
DLH

SEX
Male Neutered

AGE
10 years

WEIGHT
9.56lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
26828

DATE
10/11/22

PRESENTING CLINICAL SIGNS

History: History cerebellar hypoplasia. 10/7/22: Presented to rDVM with severely increased respiratory effort, open mouth breathing when handled. Effusion noted on TFAST. Sent home with Lasix and echocardiogram scheduled. Today, Sparta is doing well with a good appetite and improved breathing since starting with Lasix. His activity is back to normal. On exam: NSR, grade III/VI parasternal murmur, PSS, lung fields clear, compressible thorax. BP: 10mmHg x 5. Medications: Lasix/furosemide 12.5mg 1 tab daily.

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 underlying rhythm is sinus in origin with an average heart rate of 188bpm. P wave morphology is positive. The QRS is inverted. Frequent APCs and VPCs are seen throughout. The APCs are singles only with periods of bigeminy. The VPCs occur in frequent singles as well as tight R on T couplets. No obvious runs of VT are appreciated.
ECG diagnosis: Normal sinus rhythm with malignant atrial and ventricular tachyarrhythmias.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is normal with adequate myocardial function. The LV wall thicknesses are normal. The endocardium appears mildly remodeled. The papillary muscles are hypertrophied and remodeled.
Left atrium: The left atrium and auricle are normal.
Mitral valve: The mitral valve is normal in structure and mobility. No systolic anterior motion is seen. No mitral regurgitation.
Aortic valve/Aorta: Aortic valve is normal. Normal outflow velocity, laminar flow. No AI.
Right ventricle: Right ventricle is markedly enlarged without significant hypertrophy. Thinning of the wall is noted with significant systolic dysfunction.
Right atrium: Marked right atrial enlargement with bowing of the IAS. Subtle spontaneous contrast.
Tricuspid valve: Tricuspid valve appears normal with moderate tricuspid regurgitation. Normal velocity.
Pulmonic valve/Pulmonary artery: The pulmonic valve appears normal in morphology and mobility. Normal pulmonic outflow velocities with laminar flow. No PI.
Pericardium/other: No pericardial effusion. Small pockets of pleural effusion visualized. No obvious cardiac tumors.

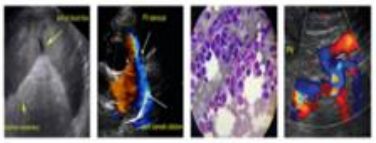
2-Dimensional Measurements

Ao diam (cm)	1.0
LA diam (cm)	1.0
LA:Ao (Swe)	1.0
IVS thickness (cm)	0.53
LVID diastole (cm)	1.2
PW thickness (cm)	0.45
LVID systole (cm)	0.72
FS (%)	42

Doppler Measurements

PV Vmax (m/s)	0.4
AoV Vmax (m/s)	0.68
MR Vmax (m/s)	NA
TR Vmax (m/s)	2.3
TR PG (mmHg)	21

Mass Veterinary Services



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

PATIENT
Sparta Hageman

SPECIES
Feline

BREED
DLH

SEX
Male Neutered

AGE
10 years

WEIGHT
9.56lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
26828

DATE
10/11/22

INTERPRETATION OF THE FINDINGS

The categorical diagnosis could be argued in this case, as the left heart is normal with a primary RV cardiomyopathy. Possible rule outs include ARVC (particularly given a concurrent arrhythmia), a primary DCM affecting the right heart or other RV cardiomyopathy. Regardless, what is seen here is marked with profound dilation of the right heart and development of congestive heart failure. Moderate TR is secondary to annular stretch and the velocity is normal, suggesting pulmonary hypertension is not contributing. No additional issues are identified.

The ECG does show a significant arrythmia as well, with both atrial and ventricular premature contractions (APCs and VPCs). While APCs are typically relatively benign, this may of marker that atrial fibrillation is impending. The VPCs are of much greater immediate concern, as R on T phenomenon is appreciated and puts the patient at risk for acute sudden death.

Given the totality of the findings, certainly full cardiac support is necessary as below including BID Lasix therapy. The arrhythmia also warrants treatment as there is high risk for sudden death; however, it should be mentioned that use of anti-arrhythmics can be difficult in cats and carries risk for complication. Sotalol is recommended but has to be compounded for safe use in a cat as below. If any declined once the medication is instituted, immediate reevaluation of the ECG is advised.

Given these findings, this patient is considered end-stage with a grave prognosis. Our goal is to stabilize the situation and attempt to improve quality of life for the short-term. Humane euthanasia should be considered as an alternative if QOL suffers. Even if we are able to stabilize the situation, the mean survival time for cats at this stage of disease is <6 months. Patient is at high risk for recurrent episodes of CHF, development of blood clots, malignant arrhythmias and/or sudden death in the future.

RECOMMENDATIONS

- Recommend compounded version of Sotalol (ideally in a liquid formulation). Initiate 0.5mg/kg PO q12h and reassess ECG in 3-5 days (sooner if any syncope or lethargy).
- Continue Furosemide at twice daily dosing; administer 1-2mg/kg PO q12h.
- Institute Plavix 75mg tabs; Give ¼ tab by mouth every 24 hours (NOTE: bitter along cut edge, may cause foaming at the mouth; coat in entirety).
- Institute Pimobendan 1.25mg PO q12h.
- Monitoring of sleeping breathing rates at home is recommended as the best way to screen for recurrent CHF at home.
- Avoid anesthesia, steroids and/or fluid therapy unless absolutely necessary in the future.

PLAN

- Monitor renal values, BP and ECG in 1-2 weeks, then every 3-4 months lifelong.
- If QOL suffers, euthanasia should be elected.
- A recheck echocardiogram is recommended in 6 months to assess for progression, sooner if issues arise in the interim.

Mass Veterinary Services

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

PATIENT
Sparta Hageman

SPECIES
Feline

BREED
DLH

SEX
Male Neutered

AGE
10 years

WEIGHT
9.56lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

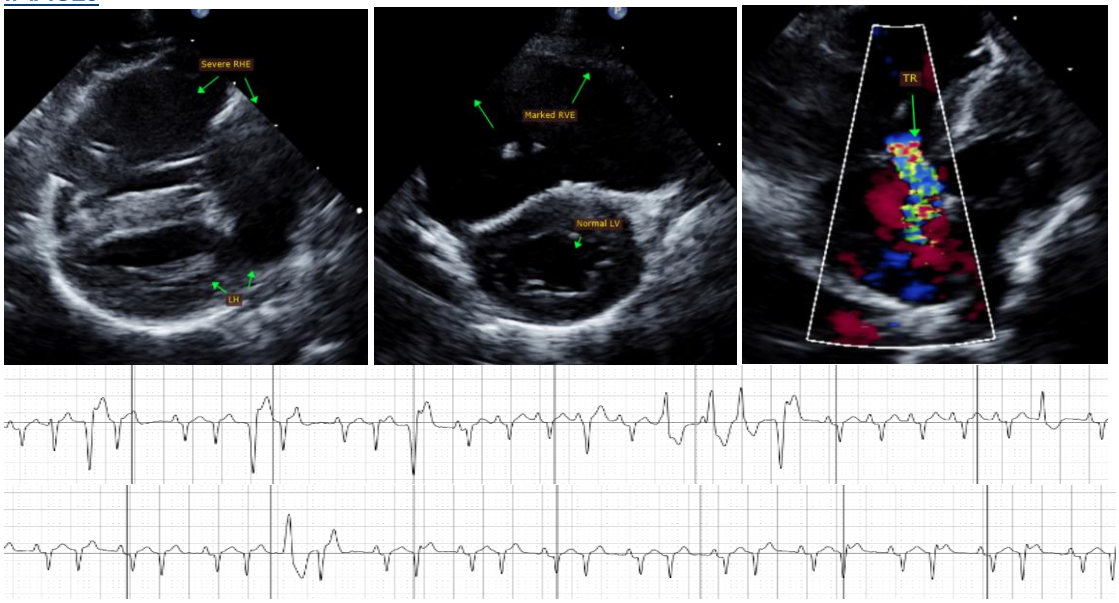
HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
26828

DATE
10/11/22

IMAGES



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)