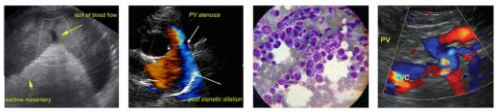
Mass Veterinary Specialty Services
1-413-734-1292



SonoPath
Clinical Sonography & Telecytology
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PATIENT
Charger Rankin

SPECIES
Feline

BREED
DSH

SEX
Male Neutered

AGE
14 years

WEIGHT
8.8lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Specialty Services

REFERRING VET
Dr. Masloski

INVOICE
21473

DATE
10/12/21

PRESENTING CLINICAL SIGNS

History: Charger was recently seen for an episode of dyspnea and weight loss. He was noted to have a gallop rhythm. Chest films were consistent with congestive heart failure. Lab work revealed a mild increase in his SDMA and BUN with a TT4 of 10.3. Started on Lasix and methimazole 10/9. He is more quiet than usual but is still active. He continues to eat well.
CV/RESP: gallop rhythm, grade II/VI murmur noted best on sternum, PSS, lung fields clear, compressible thorax. BP: 120mmHg x 5.
-Current medications: 1) Lasix/furosemide 12.5mg 1/2 tab three times a day (4.6mg/kg per day) 2) Felimazole 5mg 1 tab twice a day *No sedation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV dilation with markedly decreased systolic function. Asymmetric LV with decreased septal thickness and borderline posterior wall. Increased LV sphericity.
Left atrium: Marked left atrial and auricular dilation with spontaneous contrast seen. No obvious organized thrombus in the body or auricular appendage.
Mitral valve: The mitral valve is normal in form and function, with no obvious prolapse. Mild central mitral regurgitation.
Aortic valve/aorta: The aortic valve is normal in morphology and mobility. Decreased aortic outflow velocity, consistent with systolic failure. No aortic insufficiency.
Right ventricle: Normal right ventricular diameter and morphology.
Right atrium: Mild right atrial enlargement with no spontaneous contrast.
Tricuspid valve: The tricuspid valve appears normal with mild tricuspid regurgitation.
Pulmonic valve/pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Decreased RVOT velocity consistent with systolic failure.
Pericardium/other: Scant pericardial effusion. Scant pleural effusion. No obvious cardiac masses.
Heart rhythm: ECG reveals a sinus rhythm with an average HR of 220bpm.

2-Dimensional Measurements

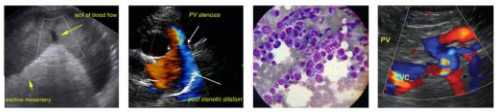
Ao diam (cm)	1.0
LA diam (cm)	2.1
LA:Ao (Swe)	2.0
IVS thickness (cm)	0.41
LVID diastole (cm)	2.3
PW thickness (cm)	0.55
LVID systole (cm)	1.9
FS (%)	15

Doppler Measurements

PV Vmax (m/s)	0.5
AoV Vmax (m/s)	0.8
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

INTERPRETATION OF THE FINDINGS

Unfortunately, this patient has end-stage cardiomyopathy and systolic dysfunction. This is causing significant dilation and overload of all four chambers resulting in insufficiency of the AV valves. Both atria are dilated with smoke (spontaneous echo contrast) identified, which raises the risk for a blood clot event in the future. The degree of biatrial dilation and pump failure is resulting in congestive heart failure (based upon prior tachypnea and persistent effusions). The finding of concurrent uncontrolled hyperthyroidism may or may not be related. Typically, we think of hypertrophic disease with uncontrolled hyperthyroidism; however, end-stage HCM can also have this appearance.



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Systolic failure can be primary in nature (DCM) however this is relatively uncommon in cats. An advanced form of restrictive cardiomyopathy (RCM) with development of systolic dysfunction is also possible, however a restrictive filling pattern is not clearly observed. Finally systolic failure can develop secondary to taurine deficiency, myocarditis, or infiltrative disease such as lymphoma. Taurine deficiency is highly uncommon in cats on commercially prepared cat foods; however, diet should be addressed and can consider taurine supplementation in case of an absorption issue. Further systemic evaluation for underlying infiltrative contribution such as neoplasia or myocarditis may be reasonable (abdominal ultrasound, fluid cytology, etc.), with an extensive history of potential prior viral or systemic infections.

Initiation of full cardiac supportive medications for CHF is recommended as below. The finding of residual effusion is concerning; however, I would not necessarily increase Lasix unless the patient continues to show clinical signs of active CHF. The current dose of Lasix is quite high and my hope of additional medications such as Pimobendan will help stabilize the situation.

Even if we are able to stabilize the patient through this crisis, given the totality of the findings, prognosis is poor to grave at this stage in the disease process, with an average survival time of <6 months. High risk for recurrent CHF, development of blood clot events and/or malignant arrhythmias/sudden death at home should be discussed. Most cats are able to maintain a good QOL for some time however on oral medications.

RECOMMENDATIONS

- Assuming the patient is doing reasonably well at home, continue Furosemide as prescribed.
- Initiate Pimobendan 1.25mg PO q12h.
- Initiate Clopidogrel (Plavix) 75mg tabs, ¼ tab PO q24h (NOTE: This medication is bitter on the cut edge; coat in entirety).
- If respiratory signs are persistent, consider addition of Spironolactone 6.25mg PO q12h.
- Consider supplement taurine 500mg daily if able to be easily medicated.
- Monitor for any clinical evidence of cardiac compromise, including respiratory changes and/or signs of a blood clot event (paralysis, neurologic changes, etc.
- Elective anesthesia is not advised.
- If possible, avoid further steroid use in the future.

PLAN

- Recheck heart rate and blood pressure in 1-2 weeks, then every 4-6 months lifelong.
- Recheck echocardiogram in 6 months to assess for progressive issues.

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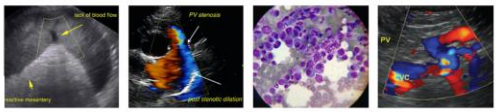

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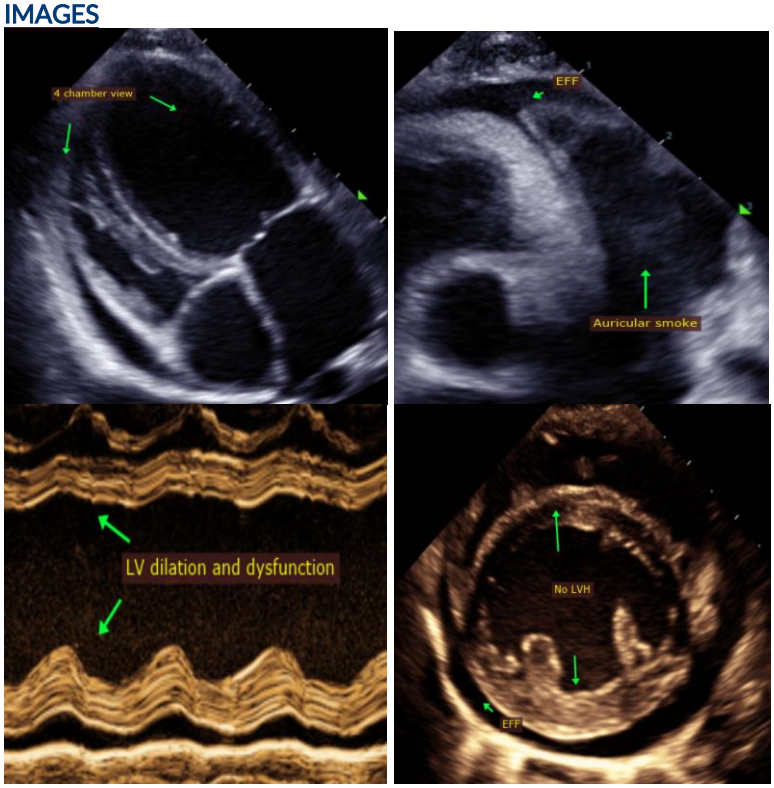

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)