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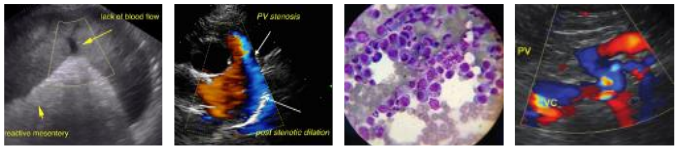


PATIENT
Rosie Lawson

SPECIES
Feline

BREED
DSH

SEX
Female Spayed

AGE
1 year

WEIGHT
7.4lbs

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

IMAGING PERFORMED BY
Melissa Weisman, DVM

HOSPITAL NAME
Minnesota Veterinary Ultrasound

REFERRING VET
Dr. Weisman

INVOICE
21166

DATE
9/22/21

PRESENTING CLINICAL SIGNS

History: History of URI/coughing a few months ago. Came in today (9/21) for skin rash/hair loss. Primary vet believed a thoracic mass was present based upon chest radiographs. Non-cardiac thoracic ultrasound shows consolidated lung lobes and pleural effusion. Emergency referral to a cardiologist was recommended. ECG and BP measurements also recommended; BP reportedly normal.
-Current medications: Patient was started on Lasix 9mg IM followed by 6.25mg PO bid, clopidogrel 75mg tab, 1/4 tab PO sid, and pimobendan 1.25mg, 1/2 tab PO bid. Patient is on Purina and hills
-Abnormal PE/Chem/CBC/UA Results: CBC shows a mild anemia (HCT=23.1%), MCHC=38.7g/dL, and mild thrombocytopenia (104 K/mcL).

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular dilation is borderline in dimension with diminished systolic function. The LV walls are mildly decreased. Severe left atrial enlargement with no obvious clot or smoke seen. The mitral valve appears normal in form and function, with no obvious prolapse into the left atrial lumen. Mild central mitral regurgitation. Decreased velocity. The tricuspid valve appears normal in form and function. Marked right atrial and ventricular dilation. Smoke suspected within the RA; not seen in all views. Mild tricuspid regurgitation. Normal TR velocity. The aortic valve is normal in morphology and mobility. Decreased LVOT and RVOT velocities consistent with systolic failure. No aortic or pulmonic insufficiency. Scant pericardial effusion noted. Moderate volume pleural effusion noted. No obvious cardiac tumors.

CARDIAC CHART

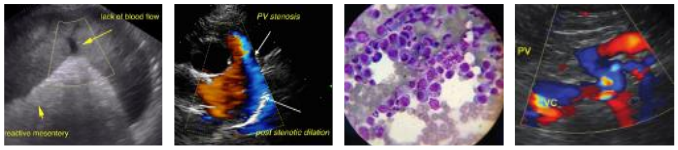
FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm) (Moise, Pipers)	LVIDd (cm) (Moise, Pipers)	LVWd (cm) (Moise, Pipers)	FS (%)	EF (%)
NORMAL PARAMETER	------	150-240	0.35-0.55	<2 (mean 1.5)	3.5-0.55	35-67	80-100
PATIENT	3.4	224	0.27	1.78	0.29	10	24
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**LA/AO HEART BASE (Swe)** (Abbott)	**LA** 2D short axis Base view (cm) (Abbott)		**LVOT VEL** (m/s)	**RVOT VEL** (m/s)	**E max** (m/s)
NORMAL	<1.5	<1.3	<1.2		<1.6	<1.3	<0.9
PATIENT	NM	2.2	1.9		0.8	0.5	NM

**Note: All measurements based upon multi-modal images and methods. An average value is reported.*
Adapted from June Boon, Veterinary Echocardiography,1998
Abbott J & MacLean H JVIM 2006;20: 111-119, Moise et al. Am J Vet Res 47:1476, 1986. Pipers et al. Am J Vet Res 40:882, 1979.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Unfortunately, this patient has end-stage cardiomyopathy and biventricular systolic dysfunction. The right heart is more affected than the left although both are certainly severe. The degree of dilation and overload of both the right and left heart is resulting in insufficiency of the AV valves and congestive heart failure, evidence by effusions. No obvious congenital cause for these findings are appreciated, such as a significant shunt or pressure overload although these are not entirely ruled out without advanced imaging (angiogram, bubble study, etc).

In young cats, systolic failure can be primary in nature (DCM) however this is relatively



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uncommon. An early onset advanced form of restrictive cardiomyopathy or ARVC with development of systolic dysfunction is also possible. Additional possible causes include a congenital shunt (not appreciated here), a prior infectious or inflammatory insult to the myocardium (such as myocarditis secondary to Parvovirus, etc.) or infiltrative disease. Taurine deficiency is highly uncommon in cats on commercially prepared cat foods; however, a taurine supplement can be considered on the off chance of a malabsorption issue.

Immediate lifelong cardiac support is recommended as below. Prognosis is poor to grave at this stage in the disease process, with an average survival time of <6 months **assuming the patient can be stabilized.** Further evaluation/hospitalization should be considered depending on clinical stability and response to Lasix thus far. A baseline ECG is recommended given the high resting heart rate, in addition to referral to a local Cardiologist if able given the complexity/severity of the case. Regardless of underlying cause, if the patient unable to be stabilized through this acute event, humane euthanasia should be discussed. Even if the patient is able to be stabilized, there will always remain 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 on oral medication.

Monitor for development of labored breathing, limb paralysis/neurologic changes and/or collapse episodes in the future. Periodic thoracocentesis will be necessary going forward and should be considered if the patient is still tachypneic. Monitoring of sleeping breathing rates at home is recommended to assess response to medications and recurrence of CHF in the future.

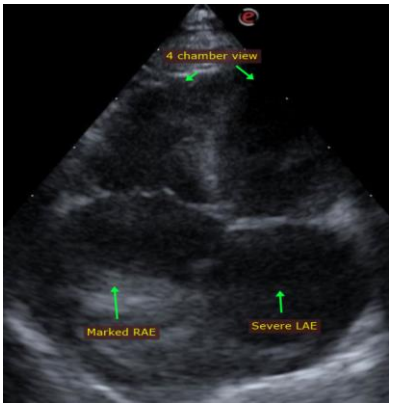
PLAN

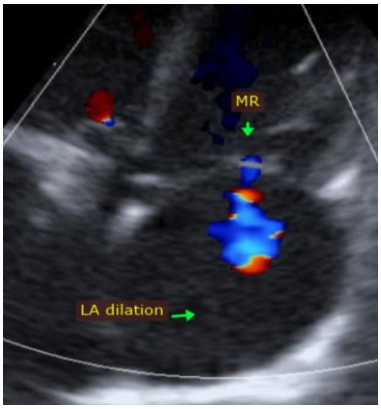
Consider referral as discussed. Consider thoracocentesis and/or hospitalization if indicated. Administer Lasix/furosemide 1-2 mg/kg PO q12h (available in 12.5, 20, 50mg tablets, 10mg/ml solution). Administer anti-coagulant Plavix/Clopidogrel 75mg tabs; Give ¼ tab by mouth every 24 hours (NOTE: bitter along cut edge, may cause foaming at the mouth; coat in entirety). Administer heart muscle support Pimobendan 1.25mg by mouth every 12 hours (off label use). Consider supplement taurine 500mg daily.

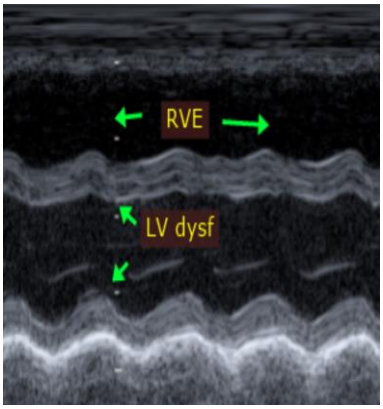
Recheck renal panel and BP in 1-2 weeks then every 3-4 months lifelong.

Recheck echocardiogram in 6 months to reassess cardiac function.

IMAGES







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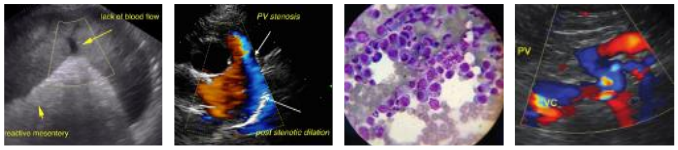

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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