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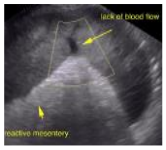
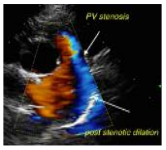
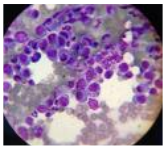
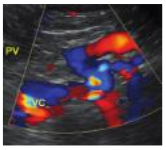

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Moo2 Mitchell-Banks

SPECIES
Feline

BREED
Siamese Mix

SEX
Female Spayed

AGE
8.8 years

WEIGHT
8lbs

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

IMAGING PERFORMED BY
Brian Barnes, DVM

HOSPITAL NAME
Westview Veterinary Hospital

REFERRING VET
Dr. Barnes

INVOICE
25308

DATE
7/13/22

PRESENTING CLINICAL SIGNS

History: Was outdoors and was found panting, yowling, dragging herself around. Seen on Emergency. BP: 196, 161, 173, 180mmHg.
-Abnormal PE/Chem/CBC/UA Results: Heart: gallop rhythm, tachycardic Lungs: lung sounds present all 4 quadrants. rate increased though not dyspneic , stable at this time. mild anemia- non regen or pre regen rbc 6.2 (6.5-12.2), hct 26.9% (30-52), hgb 90 (98-162) mild hyperglycemia 9.6 (3.9-8.8) suspect stress mild hypoproteinemia 55 (57-89) tt4 13 (10-60).

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is attached during the study 25mm/s, 20mm/mV. The underlying rhythm is sinus in origin with a sinus tachycardia. Frequent VPCs can be seen throughout that appear polymorphic. Run of paroxysmal ventricular tachycardia is identified with an elevated heart rate. No obvious supraventricular premature beats, pauses or other dysrhythmias observed.
ECG diagnosis: Underlying sinus rhythm with maglinant ventricular arrhythmias.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Moderate left ventricular dilation with diminished systolic function. The LV wall thickness is decreased with regions of asymmetry. Severe left atrial enlargement with no obvious smoke seen. The mitral valve appears normal in form and function, with no obvious prolapse into the left atrial lumen. Moderate central mitral regurgitation. The tricuspid valve appears normal in form and function with mild Tr. Normal velocity. Moderate right atrial dilation. Mild RV dilation. The aortic valve is normal in morphology and mobility. Decreased LVOT and RVOT velocities. No aortic or pulmonic insufficiency. Scant pericardial effusion noted. No obvious 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	3.61	NM	0.37	2.4	0.29	20	47
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	2.5	2.4	2.0		0.8	0.6	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.

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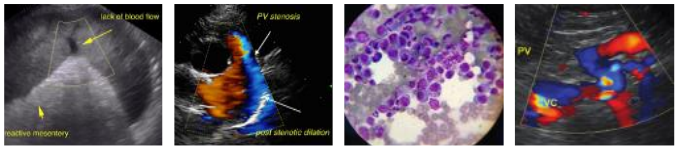

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Unfortunately, this patient has end-stage cardiomyopathy with LV dysfunction. This is causing dilation and overload of all 4 chambers, resulting in insufficiency of the AV valves. A concurrent primary valve issue cannot be ruled out. The left heart is more significantly affected than the right with severe left atrial enlargement. Categorical classification of end-stage RCM versus DCM versus other could be argued in this case. Regardless, what is seen here is considered severe. Finally, scant pericardial effusion is noted which is concerning for early congestion.

In cats, systolic failure can be primary in nature (DCM); however, this is relatively uncommon. An advanced form of restrictive cardiomyopathy (RCM) with development of systolic dysfunction is also possible. 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, can consider taurine supplementation in case of an absorption issue.

The attached ECG shows a normal sinus rhythm with isolated VPC's and a run of ventricular tachycardia (VT). While this is not an ideal way to document, the finding is definitive. This has likely developed secondary to structural disease, given the appearance of the heart muscle. VT in cats is quite rare in cats and there is certainly high risk for acute decompensation and sudden death even with medical management. Given this finding, the arrythmia is suspected to be the cause of reported episode.

Going forward, given the complexity of the issues highly recommend referral to a multi-specialty center for monitoring, arrythmia conversion with lidocaine and stabilization. Ventricular arrhythmias in cats carry high risk when considering treatment, as anti-arrhythmic medications can be poorly tolerated. If this option is declined, immediate institution of compounded solution of sotalol is recommended, understanding there is risk involved. This is addition to full cardiac support as below, given the finding of early congestion.

Prognosis is poor to grave at this stage in the disease process, with an average survival time of <6 months. Most cats are able to maintain a good QOL for some time however on oral medication. High risk for recurrent CHF, development of blood clot events and/or malignant arrhythmias/sudden death at home should be discussed.

Monitor for development of labored breathing, limb paralysis/neurologic changes and/or collapse episodes in the future. Monitoring of sleeping breathing rates at home is recommended to assess response to medications and recurrence of CHF in the future.

PLAN

Highly recommend referral for stabilization. If declined, initiate the following oral medications: Compounded Sotalol 1mg/kg PO q12h (a liquid solution is suggested). Institute Lasix/furosemide 1-2mg/kg PO q12h. Institute 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). Institute heart muscle support Pimobendan 1.25mg by mouth every 12 hours (off label use). Consider supplement taurine 500mg daily.

Recheck renal panel, BP and ECG in 1-2 weeks then every 3-4 months lifelong. Do not utilize an ACEI in this patient.

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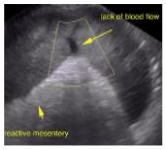
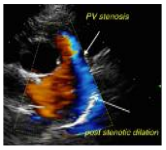
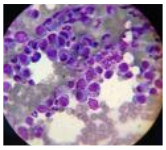
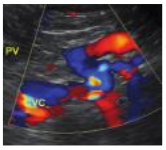

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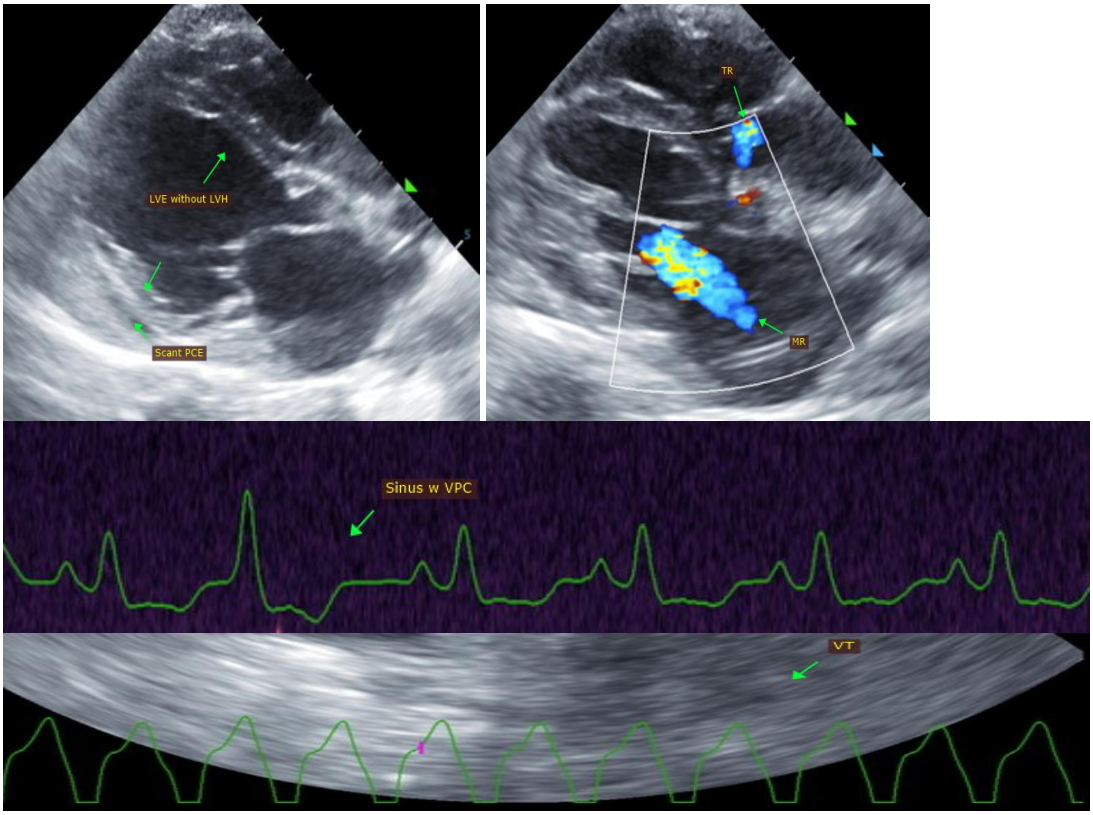
Recheck echocardiogram in 6 months to reassess cardiac function

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

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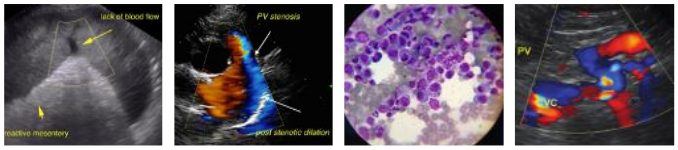

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