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Clinical Sonography & Telecytology
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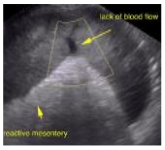
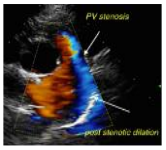
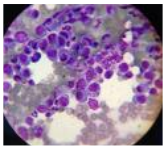
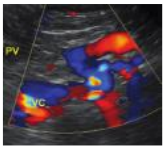

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1-800-838-4268 info@sonopath.com

PATIENT

Remington Loomis

SPECIES

Feline

BREED

DSH

SEX

Male Neutered

AGE

5 years

WEIGHT

7.5kgs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Kelly Romero, DVM

HOSPITAL NAME

Fort Collins Veterinary Emergency Hospital

REFERRING VET

Dr. Romero

INVOICE

20879

DATE

9/3/21

PRESENTING CLINICAL SIGNS

History: Acute onset crying out in pain and paresis of the right front limb. Developed increased RR and effort shortly after presentation. Hx of mild chronic renal disease.
Abnormal PE/Chem/CBC/UA Results: PE - no palpable pulse RF, slightly cyanotic nail beds and significant pain. Developed increased respiratory rate and effort along with auscultated crackles shortly after presentation. No murmur or obvious arrhythmia. Rads - Cardiomegaly with biatrial bulges. Pulmonary vascular distention and interstitial pulmonary pattern consistent with left sided congestive heart failure and cardiogenic pulmonary edema. Small amount of pleural effusion. Blood work - unremarkable today Blood pressure - 86 systolic Progress report- RF paresis and pain resolved about 3 hours after presentation. At presentation he was placed in O2. Removed about 5 hours later and RR and effort remained stable/improved. Current treatments: loading dose of Plavix of 75 mg once, then 18.5 mg daily; pimobendan 1.875 mg BID, furosemide 12.5 mg q8h, buprenex prn.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Significant left ventricular dilation with diminished systolic function. 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. Irregular LV wall thickness. The tricuspid valve appears normal in form and function. Mild right atrial and ventricular dilation. No obvious tricuspid regurgitation. The aortic valve is normal in morphology and mobility. Decreased LVOT and RVOT velocities consistent with systolic failure. No aortic or pulmonic insufficiency. No 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	7.5		0.45	2.3	0.40	9	22
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	2.1	2.1	1.8		0.6	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.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Unfortunately, this patient has end-stage cardiomyopathy and systolic dysfunction. This is causing dilation and overload of the left heart resulting in insufficiency of the mitral valve. The degree of dilation and pump failure is resulting in congestive heart failure (pleural effusion reported).

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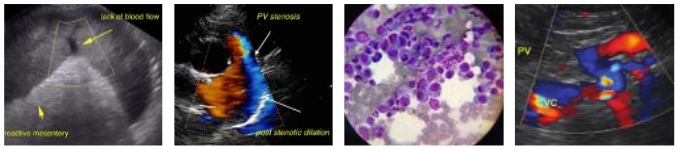

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In cats, systolic failure can be primary in nature (DCM) however this is relatively uncommon. An advanced form of hypertrophic cardiomyopathy (burn out HCM) or restrictive cardiomyopathy (RCM) with development of systolic dysfunction is possible. Additionally, 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.

The PE/history is suggestive of a forelimb thrombus and this exam all but confirms a cardiac origin as the cause. Cats of any age who develop an thrombus unfortunately carry a poor to grave prognosis, with those who survive the initial clot event often succumbing within weeks to months to a recurrent thrombus or CHF.

Time and supportive care to ensure patient comfort is the best way to approach a thrombus should the owners elect to go forward. Heparin can be utilized in hospital to help decrease the risk for clot ascension and further clot development; however, there is no safe or recommended therapy to disrupt the current thrombus. Other possible complications include reperfusion injury, limb necrosis, CHF/arrhythmias. Assuming the pain can be controlled, some cats are able to regain some or all function in the limb over time while others may not.

Given these findings, continued hospitalization for supportive care is recommended until stabilized. 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. A screening ECG is recommended. Most cats are able to maintain a good QOL for some time however on oral medication.

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

In hospital: Supportive care through limb manipulation/temperature support, monitoring electrolytes/renal values q6hours, monitoring BP in both fore and hindlimbs, heparin therapy if able/elected, pain control as needed (methadone, buprenex, etc.).
Initiate Plavix 18.75mg PO SID (NOTE: this medication is very bitter and may causing foaming at the mouth- coat in entirety). Lasix 1-2mg/kg PO q12h. Pimobendan 1.25mg PO q12h.

Recheck renal values in 10-14 days, then every 3-4 months lifelong. Close monitoring of respiratory rate and effort at home.

Recheck echocardiogram in 6 months once stable on oral medications to reassess for progression.

Recheck echocardiogram in 6 months to reassess cardiac function.

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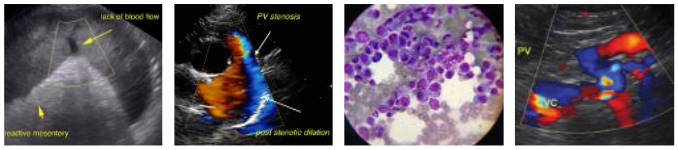

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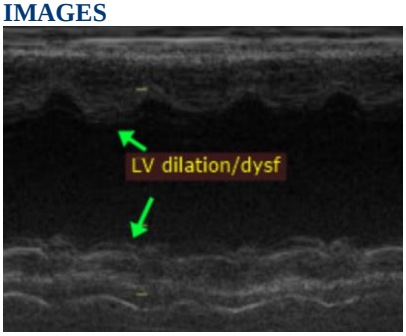
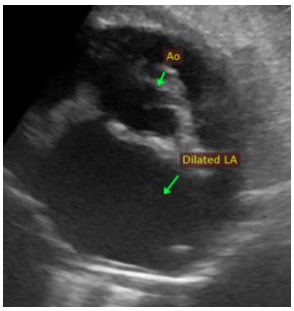
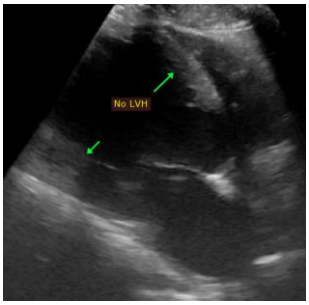
IMAGES







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