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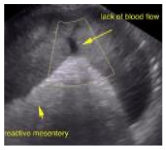
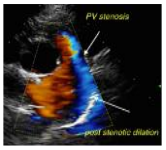
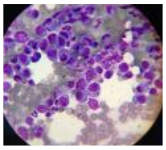
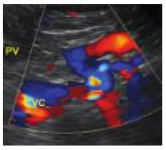
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT
Junior Devoe

SPECIES
Feline

BREED
DMH

SEX
Male Neutered

AGE
10 years

WEIGHT
10.6lbs

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

IMAGING PERFORMED BY
Karen Ebersole, DVM, DABVP

HOSPITAL NAME
Scanvet

REFERRING VET
Dr. Moore

INVOICE
30319

DATE
4/18/23

PRESENTING CLINICAL SIGNS
History: Presented for not eating well. Arrythmia noted on exam. Increased RR.

ELECTROCARDIOGRAPHIC FINDINGS
A six lead ECG is available at 25mm/s; 10mm/mV. The average heart rate is 188bpm with a largely regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. Isolated VPCs throughout; primarily monomorphic; singles with an RBBB morphology (indicative of an LV origin. A single couplet is observed. No supraventricular premature beats or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm with isolated VPCs and a single couplet.

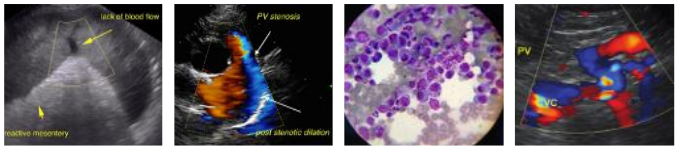
ECHOCARDIOGRAM FINDINGS
2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is normal in dimension with regions of thinning. The LV chamber is mildly increased with increased sphericity. Borderline systolic function. There is a diffusely hyperechoic endocardium consistent with fibrosis. The papillary muscles are asymmetric and irregular. False tendon. The endocardium also appears remodeled. The left atrium is mild to moderately dilated. The mitral valve is normal in structure and mobility. Trace MR. The right atrium is normal. The right ventricle is normal. No TR. Blood flow through the LVOT and RVOT are normal in velocity. No pleural or pericardial effusion seen. 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	4.7	180	0.35	2.0	0.36	36	70
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	1.6	1.7	1.7		0.8	NM	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
Restrictive/unclassified cardiomyopathy (R/UCM) is suspected. This diagnosis is based upon left atrial and ventricular dilation with remodeling and fibrosis of the endocardium and borderline LV dysfunction. Fortunately, with only mild to moderate left atrial dilation indicates the risk for complication is relatively low, however there is risk for progression going forward. No additional issues are identified.



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Given mild/moderate atrial dilation, it may be reasonable to institute cardiac supportive Pimobendan in this case (off label use). If this cat is difficult to medicate, an alternative would be to monitor closely for progression in the next 6 months. No additional medications are indicated at this time. With any further atrial dilation, Plavix and potentially an ACEI can be considered. Many cats with cardiomyopathy will remain occult/asymptomatic for extended periods of time, however there is a subset that will experience more rapid progression to clinical signs in the first few years after diagnosis. Prognosis is guarded.

The ECG does confirm isolated and one couplet of ventricular premature contractions (VPCs). VPCs can certainly be cardiac in origin with significant structural disease and may be the simplest explanation in this case. Extra-cardiac causes should be considered, including systemic disease, neoplasia, etc. Full systemic work-up is advised if not recently performed. The finding of a tight couplets is concerning for maglinant arrythmias and Atenolol is recommended as below. Close monitoring for any associated clinical signs including collapse or significant lethargy is advised with immediate re-evaluation in these instances.

Anesthetic risk is considered moderately elevated, with risk for fluid overload, spontaneous CHF, hypotension, etc. Judicious IV fluid rates are advised to avoid fluid overload. Drugs that stimulate heart rate should be avoided unless clinically necessary (glycopyrrolate, atropine). Avoid ketamine, telazol, acepromazine and Dexdomitor. A reasonable protocol would include opioid/benzodiazepine pre-medication, propofol induction, isoflurane gas. Avoid steroids if possible.

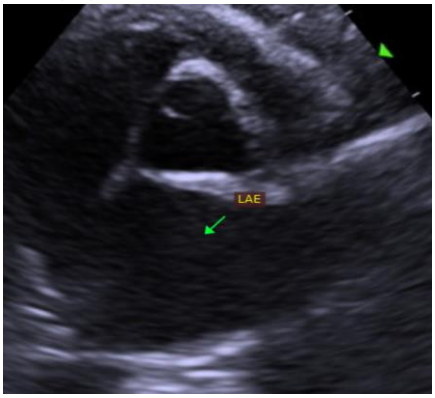
PLAN

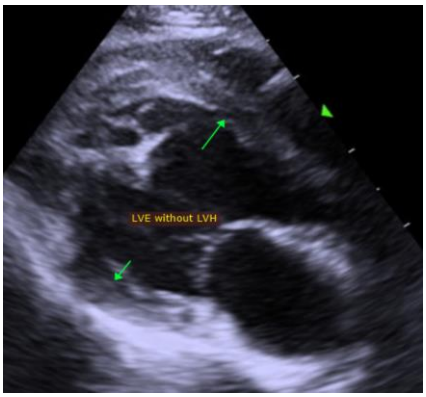
Consider Pimobendan as discussed: 1.25mg PO q12h. Institute Atenolol 6.25mg PO q24h. Baseline BP recommended. Consider full systemic screening as discussed.

A recheck ECG is recommended in 1-2 weeks to screen for response. If couplets persist, increase to q12h. If persistently despite BID dosing, consider submit ECG for reevaluation.

Recommend recheck echocardiogram and ECG in 6 months to assess for progression and need for medications, sooner if clinical signs arise.

IMAGES





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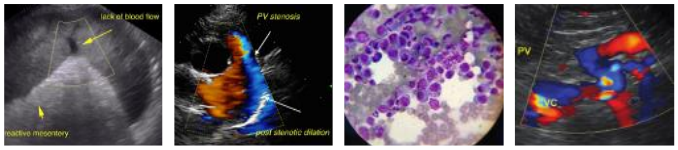

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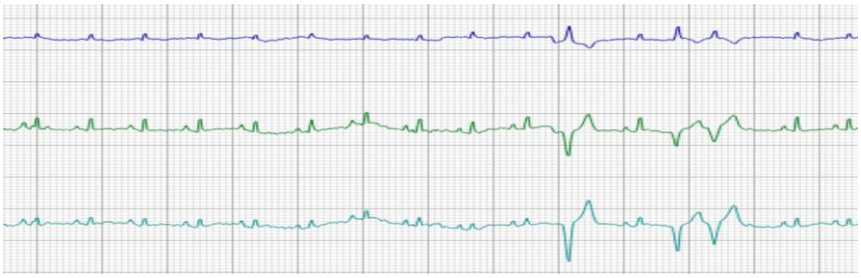

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
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