



PATIENT

Leonard Ellis

SPECIES

Feline

BREED

DSH

SEX

Male Neutered

AGE

8 years

WEIGHT

9.3lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Dana Alterman,
RDMS, LVT

HOSPITAL NAME

Eubank Animal Clinic

REFERRING VET

Dr. Lloyd

INVOICE

30441

DATE

4/25/23

PRESENTING CLINICAL SIGNS

History: Presented for dental: arrhythmia auscultated on pre-op exam. Currently asymptomatic. On ursodiol for gallbladder sludge/mild ALT + ALK elevations that have resolved. Previously has had occasional vomiting. RX: Ursodiol 20mg PO BID

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 20mm/mV. The underlying rhythm is sinus in origin with an average heart rate of 188bpm. 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 low voltage. The MEA is shifted left. Frequent single and couplet VPCs are seen throughout. The couplets are R on T with an instantaneous heart rate of 300bpm. Occasional triplets are seen consistent with ventricular tachycardia.

ECG diagnosis: Normal sinus rhythm with malignant ventricular arrhythmias and VT.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is normal in dimension. There is a mildly hyperechoic endocardium consistent with fibrosis. The left atrium is mildly enlarged in size. The right atrium is mildly enlarged in size. The right ventricle appears normal. The mitral valve is normal in structure and mobility. Mild MR and TR. Blood flow through both the LVOT and RVOT are low normal in velocity. Normal MPA. No obvious PI or AI. No obvious cardiac tumors identified. No effusions seen.

CARDIAC CHART

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm) <small>(Moise, Pipers)</small>	LVIDd (cm) <small>(Moise, Pipers)</small>	LWVd (cm) <small>(Moise, Pipers)</small>	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.35-0.55	<2 (mean 1.5)	3.5-0.55	35-67	80-100
PATIENT	4.2	NM	0.30	1.4	0.30	48	83
FELINE CARDIAC PARAMETERS	LA/AO <small>(Boon)</small>	LA/AO HEART BASE (Swe) <small>(Abbott)</small>	LA 2D short axis Base view (cm) <small>(Abbott)</small>	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	1.4	1.6	1.5	0.9	0.75	NM	
<p><i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i> 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.</p>							

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Normal LV wall measurements and function are noted in this study. Mild fibrosis and remodeling is seen; however, this is considered reasonable for an 8-year-old cat. What is most concerning is there is mild biatrial enlargement, which may be suggestive of unclassified disease. Atrial dilation can also develop secondary to sustained tachycardia (tachycardia-induced cardiomyopathy) which is also a possibility in this arrhythmic cat. No matter the categorical diagnosis, a cat with any degree of atrial enlargement should be followed up closely, as there is evidence of increasing



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LA pressure which may progress in the future. Serial echocardiography will be necessary to determine progression.

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The ECG is concerning with malignant ventricular arrhythmias appreciated. The VPCs are coming as singles, couplets and brief runs of ventricular tachycardia. This suggests an unstable situation with risk for acute collapse and/or sudden death. Ventricular arrhythmias (similar to in dogs) can develop as a primary arrhythmic disorder or be secondary to structural cardiac disease (mild in this cat) or extra-cardiac issues such as cancer. Full systemic evaluation is recommended to rule out inciting causes in this older cat.

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Going forward, referral to a cardiologist is recommended and should be offered to the client. Ventricular arrhythmias in cats carry high risk when considering treatment, as anti-arrhythmic medications can be poorly tolerated. If this option is declined or not possible and given the asymptomatic status, consider instituting of low dose of compounded sotalol to assess response, understanding there is risk involved.

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Until the arrhythmia is further assessed and treated, recommend cardiac supportive medications as below.

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Monitor for any development of clinical signs at home, including labored breathing, cough, syncope or signs of a blood clot (paralysis, neurologic change). Arrhythmic patients will always be at risk for further syncope and/or sudden death going forward.

Anesthesia is not advised due to high risk for complication.

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(Cardiology)

PLAN

Consider referral as discussed. If declined or not possible, institute Sotalol 1mg/kg PO q12h (compound into a solution). Reassess ECG in 5-7 days post-initiation. Consider institute Pimobendan 1.25mg PO q12h. Consider institute Plavix 75mg tabs; Give ¼ tab by mouth every 24 hours (NOTE: bitter along cut edge, may cause foaming at the mouth; coat in entirety).

IMAGING PERFORMED BY

Dana Alterman,
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A recheck echocardiogram/ECG is recommended in 6 months to screen for progressive LA dilation.

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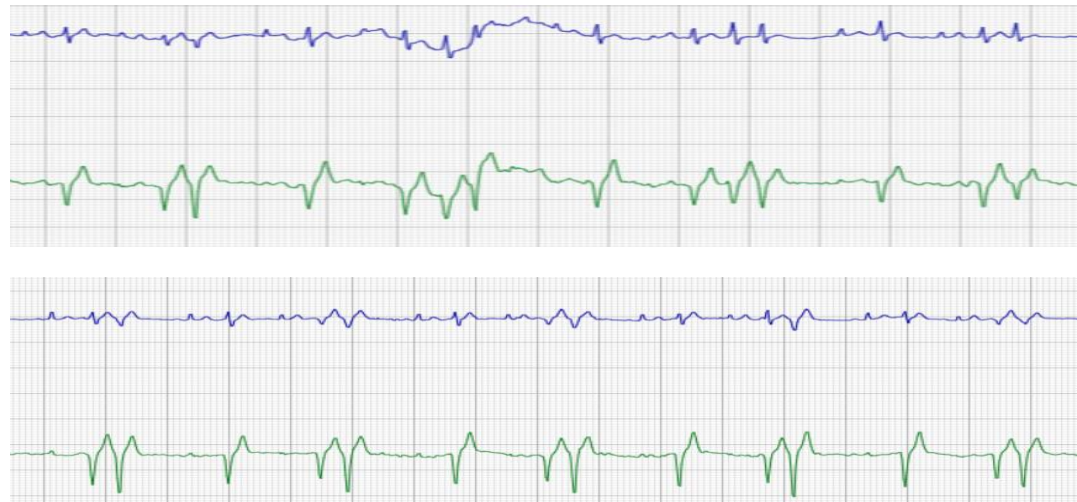
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
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