



**PATIENT**

Leo Garcia

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Male Neutered

**AGE**

14 years

**WEIGHT**

8.25lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Sara Hansen

**HOSPITAL NAME**

VCA Mckenzie  
Animal Hospital

**REFERRING VET**

Dr. Arpaia

**INVOICE**

29722

**DATE**

3/20/23

**PRESENTING CLINICAL SIGNS**

History: Grade 2/6 heart murmur. Intermittent gallop. Controlled hyperthyroid.  
-Abnormal PE/Chem/CBC/UA Results (October 2022): CBC - Anemia, HCT 24%; Chemistry profile - NSF; Urinalysis - 2+ protein; Thyroid hormones - HIGH 5.4-- started methimazole.  
-Current medications: Methimazole 5mg tablets: Give 1/2 tablet by mouth every 12 hours.

**RADIOGRAPHIC FINDINGS** \*NOTE: Images submitted for supplemental cardiac information only.  
Cardiomegaly. No obvious evidence of CHF.

**ELECTROCARDIOGRAPHIC FINDINGS** \*Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.  
A single lead ECG is available; 50mm/s, 20mm/mV. The underlying rhythm is sinus in origin with an average heart rate of 166bpm. P for every QRS complex and vice versa. The P and QRS morphologies are positive. APCs are suspected; singles only. No VPCs, pauses or other dysrhythmias observed.  
ECG diagnosis: Normal sinus rhythm with isolated APCs.

**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 endocardium also appears remodeled. Mild LV dilation with a spherical appearance. Borderline systolic function. The left atrium is minimally dilated. The right atrium is normal in size. The right ventricle appears normal. Trace TR. Normal velocity. The mitral valve is normal in structure and mobility. No MR. Blood flow through the LVOT is normal in velocity. Blood flow through the RVOT is normal in velocity. No PI or AI. No effusions or obvious cardiac tumors identified.

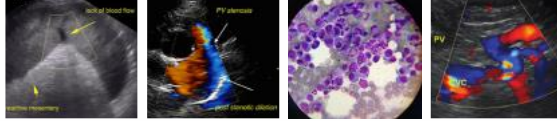
**CARDIAC CHART**

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm) (Moise, Pipers)	LVIDd (cm) (Moise, Pipers)	LWVd (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	4.4	NM	0.44	1.86	0.41	47	90
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	1.8	1.4	1.3	1.2	1.4	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**

Mild abnormalities are identified, including mild LV dilation with borderline function and increased sphericity. No evidence of significant hypertrophy ruling out typical hypertrophic disease. No other significant findings are identified. These abnormalities are most consistent with early restrictive disease (RCM) and monitoring for progression is advised. No cause for the murmur is identified here, making it likely secondary to anemia.



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The ECG does show isolated APCs. These are likely due to stress and mild heart disease in this senior patient. That being said, systemic illness can also lead to this development and should be considered. No treatment is warranted based upon what is seen here.

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No cardiac medications are clearly indicated. Prognosis is guarded prior to assessing for progression.

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DSH

Monitor for any development of clinical signs at home, including labored breathing, cough or signs of a blood clot (paralysis, neurologic change).

**SEX**

Male Neutered

Anesthetic risk is considered mildly elevated and judicious IV fluid rates are advised to avoid fluid overload. Additionally, drugs that stimulate heart rate should be avoided unless clinically necessary (glycopyrrolate, atropine). Avoid vasodilators as this may worsen an outflow obstruction (if present). A reasonable protocol includes opioid/benzodiazepine premedication, propofol induction, isoflurane maintenance. Additionally, steroids should be used with caution on older cats, as even a 'normal' geriatric heart can develop evidence of intolerance and fluid retention.

**AGE**

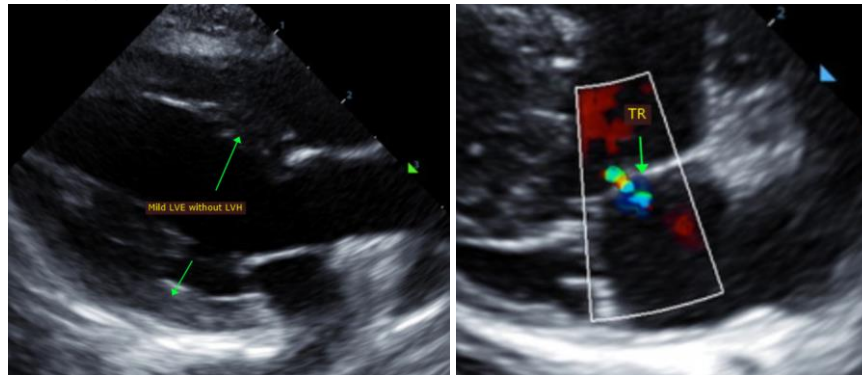
14 years

A recheck echocardiogram is recommended in 6 months to screen for progressive LA dilation, sooner if any clinical issues arise in the interim.

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**IMAGES**



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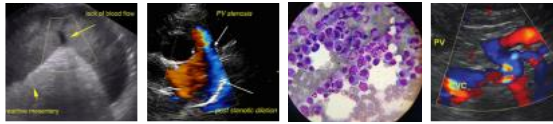
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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info@sonopath.com

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