



**PATIENT**

Zeppelin Morrison

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Male Neutered

**AGE**

18 years

**WEIGHT**

9.2lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Kelly Reschny, RVT

**HOSPITAL NAME**

Village Cat Clinic

**REFERRING VET**

Dr. Junaid

**INVOICE**

45616

**DATE**

11/3/25

**PRESENTING CLINICAL SIGNS**

History: Grade 3/6 heart murmur. Asymptomatic. Assess prior to dental. On Surolan and Doxycycline. -Abnormal PE/Chem/CBC/UA Results: CBC: WNL other than reduced eos. BG WNL. SDMA 11, creat 166, BUN 21.1, Phosph Ca WNL, Na K WNL. hepatic and thyroid function values all WNL. CI reduced. Alb low normal, glob increased hence TP increased. ProBNP: >1500 significant elevation.

**ELECTROCARDIOGRAPHIC FINDINGS**

A six lead ECG is available at 25mm/s; 10mm/mV. The average heart rate is 160bpm. 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 is inverted. The MEA is shifted left. No ectopic beats, pauses or dysrhythmias observed.

ECG diagnosis: Normal sinus rhythm. Left axis deviation.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is mildly increased in dimension. There is a diffusely hyperechoic endocardium consistent with fibrosis. Mild symmetric papillary muscle hypertrophy and remodeling. The right ventricle is subjectively normal in size and morphology. There is no left atrial enlargement present. No right atrial enlargement present. Normal RVOT velocity. Trace TR. Normal LVOT velocity. There is no obvious systolic anterior motion (SAM) of the mitral valve present. No MR. No significant AI or PI. There is no pericardial effusion noted. No pleural effusion appreciated. 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	4.2	NM	0.62	1.2	0.62	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	1.0	1.2	1.0		1.0	0.8	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**

Hypertrophic cardiomyopathy (HCM) is a rule out diagnosis once a patient is deemed normotensive and euthyroid. Both should be ruled out in this case as contributing factors. The degree of disease is mild, with only mild LVH and no LA dilation. This would indicate the risk for clinical issues is low at this time. Flow through the great vessels is normal, and no significant valve regurgitation is seen. No cause for the murmur is identified suggesting a physiologic origin is likely. The ECG is largely unremarkable with a normal sinus rhythm. A left axis deviation is a benign conduction abnormality common in older cats.



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Mild disease may be enough to explain BNP elevation; however, other issues such as hypertension or renal disease should be ruled out.

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No medications are indicated prior to significant atrial dilation. It is important to note that no medications have been shown to definitively alter long term outcome at this stage, particularly in the absence of SAM.

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Prognosis is guarded, given the highly variable rates of progression with subclinical feline cardiomyopathy. Many cats will remain asymptomatic for a period of years, while others progress to clinical compromise sooner. Close monitoring for progressive LA dilation in the future will help determine long term outcome.

**SEX**

Male Neutered

Monitor at home for any respiratory issues or signs of blood clot events (neurologic change, paralysis, etc.).

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Anesthetic risk is considered mildly elevated; however, judicious fluid administration is advised if needed with careful monitoring to screen for fluid overload. A reasonable protocol includes opioid/benzodiazepine premedication, propofol induction, isoflurane maintenance. Avoid ketamine, telazol, acepromazine and Dexdomitor. Additionally, drugs that stimulate heart rate should be avoided unless clinically necessary (glycopyrrolate, atropine).

**WEIGHT**

9.2lbs

Risk for complication with steroid or fluid use typically follows LA dilation, which in this case is mildly elevated. If needed, monitoring of RR/RE is advised particularly in the initiation phase.

**INTERPRETED BY**

Maggie Machen Lamy,  
 DVM DACVIM  
 (Cardiology)

**PLAN**

A screening blood pressure and T4 are recommended, then every 6 months lifelong.

A recheck echocardiogram is recommended in 6 months to assess for progression, sooner if any issues arise in the interim.

**IMAGING PERFORMED BY**

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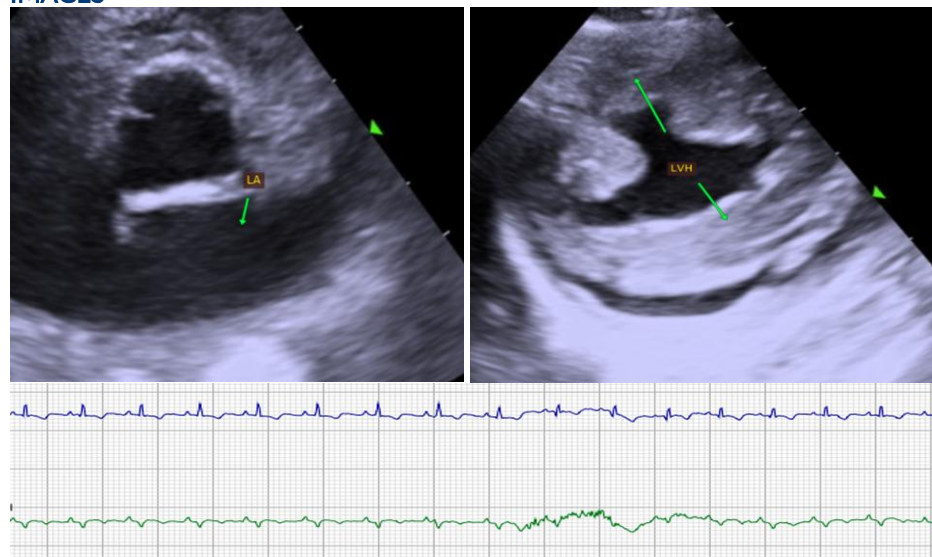
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**IMAGES**





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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.

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Feline

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.

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DSH

**Maggie Machen Lamy, DVM**  
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