



**PATIENT**

Tia Pappas

**SPECIES**

Canine

**BREED**

DSH

**SEX**

Female Spayed

**AGE**

15 years

**WEIGHT**

16.31lbs

**INTERPRETED BY**

Maggie Machen  
 Lamy, DVM, DACVIM  
 (Cardiology)

**IMAGING PERFORMED BY**

Jenna Walsh, CVT

**HOSPITAL NAME**

VCA Mckenzie  
 Animal Hospital

**REFERRING VET**

Dr. Arpaia

**INVOICE**

21709

**DATE**

10/25/21

**PRESENTING CLINICAL SIGNS**

History: Intermittent cough /asthma like symptoms since April 2021 Decompensated dyspneic event 10/15/21- emergency visit chest radiographs, labs, lasix, albuterol, oxygen therapy administered, P responded to medications - started pimobendan and Lasix. P is extremely aggressive and exam without sedation is limited to visual exam. No murmur noted on sedated exam.  
 Current Medications: pimobendan 1.25mg PO BID; lasix 12.5mg PO BID; gabapentin 100mg  
 Abnormal PE/Chem/CBC/UA Results: CBC - Review of EVH records: CBC through Idexx on 10/15/21 wnl except RBC 6.51 (6.65-12.2) HCT 28.7 (30.0-52.3); Chemistry profile - Review of EVH records: chem panel through Idexx on 10/15/21 wnl except BUN 38 (16-36) high normal creatinine: 1.8 (0.8-2.4); Thyroid hormones - Review of EVH records: thyroid through Idexx on 10/15/21 TT4- 1.9  
 Sedation: torb/alfaxan

**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; 25mm/s, 20mm/mV. The average heart rate is 140bpm with a largely regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are low voltage. No ectopic beats, pauses or dysrhythmias observed.  
 ECG diagnosis: Normal sinus rhythm.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is borderline normal in dimension. There is a diffusely hyperechoic endocardium consistent with age-related fibrosis. Diffuse remodeling. The papillary muscles are hyperechoic. The left atrium is normal in size. The right atrium is normal in size. The right ventricle appears normal. The mitral valve is normal in structure and mobility. Trace MR. The tricuspid valve appears normal in structure and mobility. No TR. Blood flow through both the LVOT and RVOT are normal in velocity. No effusions. No obvious cardiac tumors.

**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	7.4		0.56	1.34	0.56	48	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	NM	1.2	1.2y		0.68	0.44	NM
<p>*Note: All measurements based upon multi-modal images and methods. An average value is reported.            Adapted from June Boon, Veterinary Echocardiography, 1998            Abbott J &amp; 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>							



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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Overtly normal geriatric cardiac structure and function. The LV wall thickness is borderline normal, which may suggest early hypertrophic disease, may be secondary to Lasix therapy or may simply be a normal variant. Follow-up is advised. Most importantly there is no evidence of elevated left atrial pressure at this time. Remodeling and fibrosis of the left ventricular wall which is considered likely a normal age-related finding. No additional issues are identified in the ECG is unremarkable.

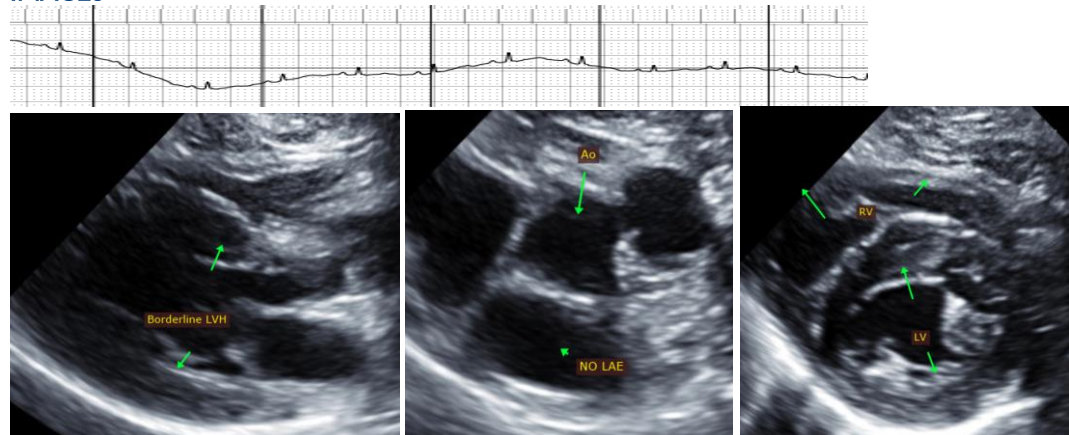
These findings would suggest a noncardiac cause for the prior respiratory signs is more likely, particularly given the history of underlying respiratory disease. If there is a question on the diagnosis consider radiologist review of the films in light of the echo findings. It is mentioned that the ER gave not only cardiac medications but also albuterol and oxygen therapy which may have improved the situation and clouded the overall picture. Regardless what is seen here should not pose risk for congestive signs and cardiac medications can be safely discontinued.

If needed, anesthetic risk is considered mild. With remodeling and diastolic stiffening, there is an elevated risk for fluid overload in this patient and judicious IV fluid use is recommended. Heart rate stimulating drugs such as atropine, glycopyrrolate or ketamine should be avoided unless medically necessary. Risk for complication with steroid use typically follows LA dilation, which in this case is low. That being said, any cat can experience unexpected signs of intolerance and monitoring of RR/RE is advised particularly in the initiation phase.

Plan: Consider radiologist review the films, additional respiratory therapy/evaluation such as azithromycin, etc. Discontinue Lasix and Pimobendan.

Recommend recheck echocardiogram in 1 year to assess for any progressive issues.

**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



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or if I can be of any further assistance please contact me.

**Maggie Machen Lamy, DVM**  
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