



**PATIENT**

Jack Journeys End

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Male Neutered

**AGE**

12 years

**WEIGHT**

14lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Kuzimski, DVM

**HOSPITAL NAME**

Animal Emergency  
Hospital Deland

**REFERRING VET**

Dr. Kuzimski

**INVOICE**

46470

**DATE**

1/15/26

**PRESENTING CLINICAL SIGNS**

History: Weight loss; inappetent for ~1 week. Increased breathing rate. No heart murmur or arrhythmia. Bradycardic. BP: 98mmHg.

-Abnormal PE/Chem/CBC/UA Results: CBC: leukocytosis, neutrophilia, lymphopenia, monocytosis, anemia (non-regenerative vs. pre-regenerative) Chemistry. glucose 334, calcium 7, BUN 58.1 EPOC. hCT 24%, glucose 314, BUN 51, iCa 1.12, chloride 109, sodium 140, BE -6.8 T4. 2.5 (WNL)

FIV/FelV/HWT. negative x3 FpLi. Elevated BNP.

-CXR report: Mild cardiomegaly. Pleural effusion. Abdominal effusion.

**ELECTROCARDIOGRAPHIC FINDINGS** \*Note: Single lead ECGs are evaluated as a rhythm strip.

Morphology/MEA cannot be definitively commented on.

A brief single lead ECG is available; 25mm/s, 20mm/mV. The average heart rate is 80bpm with a narrow QRS morphology. P waves are difficult to visualize consistently (rule out AV block v atrial standstill).

ECG diagnosis: Bradycardia with a supraventricular QRS morphology. Rule out AV block with an escape rhythm versus other bradycardia.

**ECHOCARDIOGRAM FINDINGS**

Limited 2D, m-mode and limited color flow imaging is available. The left ventricular wall is normal with no hypertrophy identified. There is a mildly hyperechoic endocardium consistent with fibrosis. Borderline LV dilation with adequate myocardial function. The papillary muscles are mildly remodeled. The left atrium is severely dilated with a horizontal component. No spontaneous contrast or thrombi noted. Trace MR. The right ventricle is normal. Moderate RA dilation. Scant pericardial effusion. No obvious cardiac tumors. Bradycardia noted throughout. No P waves are visualized.

**CARDIAC CHART**

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm) <small>(Moise, Pipers)</small>	LVIDd (cm) <small>(Moise, Pipers)</small>	LVWd (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	6.4	NM	0.49	1.6	0.49	58	90
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 <small>(m/s)</small>	RVOT VEL <small>(m/s)</small>	E max <small>(m/s)</small>	
NORMAL	<1.5	<1.3	<1.2	<1.6	<1.3	<0.9	
PATIENT	NM	>1.8	NM	NM	NM	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**

Limited image set provided. The finding of severe biatrial enlargement in the face of normal LV wall thickness is most consistent with Unclassified Cardiomyopathy (UCM); however, this can also develop secondary to chronic bradycardia, which may be case here. Systolic function is adequate, and no LV hypertrophy is seen.



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Unfortunately, the ECG is difficult to evaluate, as the tracing is very brief and single lead in nature. P waves are not identified on the ECG consistently nor are they seen during the echo. The QRS is narrow (ie supraventricular), yet the rate very slow and an escape rhythm is suspected. This may reflect atrial standstill and some other bradyarrhythmia, such as AV block. **A six-lead tracing should be performed ASAP. If not possible and referral is declined, an atropine challenge could be considered, simply to determine if there is any heart rate stimulation available.**

Given these findings, **CHF is the likely cause of tricavitary effusion.** Full cardiac support should be instituted going forward. If a true pathologic bradyarrhythmia is present and referral is declined, this patient will likely succumb to CHF if the HR is unable to be normalized. In this instance, euthanasia should be considered.

Consider hospitalization for continued stabilization, oxygen and Lasix therapy. The prognosis is poor to grave, with a mean survival time for cats with CHF <8-12 months, however most are able to maintain a good quality of life on medications if able to be stabilized. There will always remain risk for recurrent episodes of CHF, development of blood clots, arrhythmias, and/or sudden death in the future. Monitoring of sleeping breathing rates at home is recommended as the best way to screen for recurrent CHF at home.

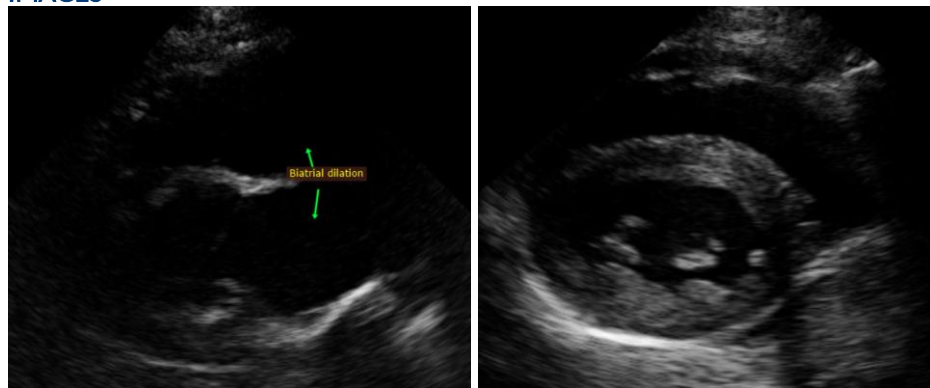
## PLAN

Baseline BP recommended. Consider hospitalization, oxygen, IV diuretic in hospital if needed stabilization. Full cardiac support should be instituted as follows: Furosemide 1-2mg/kg PO q12h. Institute blood thinner Clopidogrel (Plavix) 75mg tablets; give ¼ tab orally once daily (NOTE: this medication is very bitter on the cut edges). Institute Pimobendan (off label use) 0.625mg PO q12h. **A six-lead tracing, atropine challenge, and/or referral should be elected. If this is declined and atropine challenge does not result in increased HRs, euthanasia may have to be considered.**

Recheck renal values in 10-14 days to ensure tolerance of medications, then every 3-4 months lifelong. Once stabilized, eating well at home and BP >130mmHg, consider addition of vasodilator ACE-I (benazepril or enalapril) 0.5mg/kg PO q12h.

A recheck echocardiogram is recommended in 6 months to assess for progression.

## 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.

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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