



PATIENT

Zoe Hall

SPECIES

Canine

BREED

Maltese

SEX

Female Spayed

AGE

11 years

WEIGHT

4.04

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Kuzimski, DVM

HOSPITAL NAME

Animal Emergency
Hospital Deland

REFERRING VET

Dr. Kuzimski

INVOICE

46232

DATE

12/16/25

PRESENTING CLINICAL SIGNS

History: Grade 5/6 heart murmur. Seemed restless. Vomited. Labored breathing. History of liver issues; on Denamarin. Pulses strong and synchronous. CBC: NSF. Chemistry: ALT 170, ALP 668, cholesterol 335 EPOC. NSF Other: CpLi. BP: 149mmHg.
-CXR report: Cardiomegaly. CHF unlikely.

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, 10mm/mV. The average heart rate is 150bpm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets (anterior>posterior) with mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Mildly increased LV diameter with hyperdynamic myocardial function. The tricuspid valve appears mildly thickened, with no tricuspid regurgitation. Normal right atrial and ventricular diameter. The pulmonic and aortic valves are normal in morphology and mobility. Normal aortic outflow velocity. No aortic and trace pulmonic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors observed.

CARDIAC CHART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	NM	NA	NM	2.2	60	90	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	NM	>0.6	NM	4.0	2.5	2.6	1.2
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing severe mitral regurgitation. Severe left atrial enlargement indicates there is relatively low risk for imminent complication; however, risk for progression to spontaneous congestive heart failure in the future is elevated. No additional issues are identified. The ECG is unremarkable with a normal sinus rhythm.



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Given the risk for progression and results of the EPIC trial, Pimobendan is indicated in this patient as below. Additionally, an ACEI is reasonable pending BP assessment, although the benefit is theoretical. Assessment of progression in the future will help predict long term outcome; however, prognosis is guarded at this stage (B2). Fifty percent of stage B2 patients typically develop CHF within 2-2.5 years of diagnosis. The median time to development of CHF in B2 cases treated with pimobendan is 3.5 years.

The CXR report suggests CHF is unlikely in this case, which is supported by these findings. Other possible causes for breathing changes should be considered. That being said, if the symptom progresses, a trial of Lasix could be attempted.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a progressive cough, labored breathing, exercise intolerance or collapse episodes.

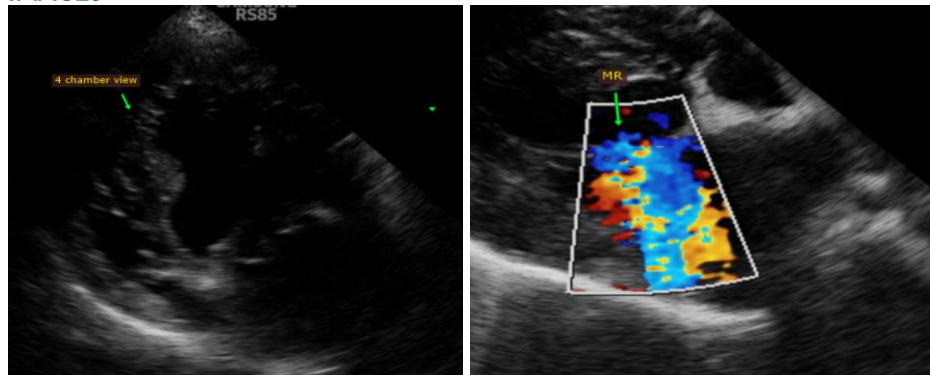
Once on the medications for 3-5 days, anesthetic risk is considered moderately elevated. Cardiac protective drug choices (opioid/benzodiazepine premedication, Propofol or alfaxalone induction, iso or sevo gas) are recommended. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Judicious IV fluid rates are recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated. Avoid alpha 2 agonists such as Dexdomitor.

PLAN

Institute heart muscle support Pimobendan 0.25-0.3mg/kg PO q12h. Baseline BP recommended. If BP>150mmHg, institute an ACEI 0.5mg/kg PO q12h. Consider other causes for the clinical issues as discussed. If the respiratory issues persist, reassessing CXR and/or considering a Lasix trial is recommended.

Recommend monitor for progression with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

IMAGES





PATIENT

Zoe Hall

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.

SPECIES

Canine

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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Maltese

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com

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