



## PATIENT

Maggie San Nicholas

## SPECIES

Canine

## BREED

Unknown

## SEX

Female Spayed

## AGE

11 years

## WEIGHT

8.46lbs

## INTERPRETED BY

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

## IMAGING PERFORMED BY

Amanda Lacey-Crook,  
SDEP

## PRESENTING CLINICAL SIGNS

History: (4/28/22): Patient presents for recheck due to persistent lethargy/poor appetite and painful abdomen. She has a raspy bark with some gurgle sounds when she is breathing starting last few days. Initially patients' signs of lethargy started 3 weeks prior. Chronic history of right luxating patella/arthritis. No ongoing vomiting, no ongoing diarrhea. Eating but less than usual and owner has to hand feed. No reported trauma. Has been at rDVM and had b12 injection, Cerenia, convenia and lab work (basic panel) all which did very little to resolve the signs. No known gi indiscretions. No other major medical concerns/issues. Grade 2/6 left apical systolic murmur discovered. 5/4: No improvement since last visit with pet only eating out of owner's hand. Pet does have significant collapsing trachea. Sensitivity to cervicoventral flexion, lumbar palpation, bilateral luxating patellas, and tense abdomen (very reactive). Mild elevated bronchovesicular wheeze  
-Abnormal PE/Chem/CBC/UA Results: CBC: NSF Chem: NSF, mild hyperglobulinemia (4.8g/dL).  
-Current Medications: Started 4/28 Pimobendan 1.25mg PO q 12 hrs Clavamox 62.5mg PO q 12 hrs x 7 days Gabapentin 100mg- 0.5ml PO q 12hrs Started 5/4 Meloxicam 0.5mg-  
-Blood Pressure 5/5: Doppler 128,134, 130 Cuff 3 LR  
-Radiographs (See attached) 4/28 Diagnostic imaging- Moderate cardiomegaly with heart occupying 3.5 intercostal spaces. No evidence of heart failure, mild right caudal interstitial changes but otherwise no evidence of significant respiratory pathology.  
-ECG report (Idexx): NSR with VPCs, AIVR and VT.

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

## ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Mild eccentric mitral regurgitation with mild left atrial dilation. Normal MR velocity. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with no significant tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology. The aortic valve is mildly asymmetrically thickened with mild aortic insufficiency. The pulmonic valve is normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. Trace pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses. Irregular rate and rhythm throughout.

## CARDIAC CHART

## HOSPITAL NAME

Rivers Edge Pet  
Medical Center

## REFERRING VET

Dr. Gibson

## INVOICE

24050

## DATE

5/5/22

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	5.9	NA	1.5	1.3	59	90	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	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	1.2	0.94	3.8	1.6	2.0	0.8
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)



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## BODY WEIGHT DEPENDENT PARAMETERS

*\*Note: All measurements based upon multi-modal images and methods. An average value is reported.*

Adapted from June Boon, Veterinary Echocardiography, 1998  
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435  
Hansson et al, Vet Rad and Ultrasound 2002  
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

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 mild mitral regurgitation. The LA is minimally enlarged, indicating the disease is well compensated for at this time. Additionally, there is a mild aortic leak with mild valve thickening; however, the reported blood pressures are normal. No obvious vegetative lesion is visualized; however, ultrasound is largely insensitive for true endocarditis. If we were able to confirm the leak was not there previously, this may be a concerning finding; however, there is no way at this juncture to know. If clinical suspicion is high, consider blood culture and/or treatment with broad-spectrum antibiotic therapy, in light of systemic illness and ventricular arrhythmias.

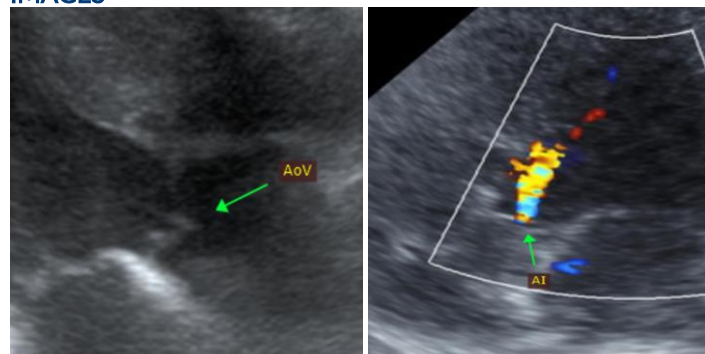
Given these findings, no cardiac medications are clearly indicated. Pimobendan can be safely discontinued. Lifelong blood pressure monitoring is advised given the aortic leak. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage. Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

**Mild disease does not explain maglinant arrhythmias on the ECG. Full systemic evaluation and workup is advised with follow up and treatment as dictated by the ECG report. Consider referral to a multispecialty facility in the complicated case.**

Anesthesia is not recommended until the arrhythmias/systemic malaise are addressed.

Recommend conservative monitoring with a full recheck echocardiogram in 6 months, sooner if any development of clinical signs.

## IMAGES





**PATIENT**

Maggie San Nicholas

**SPECIES**

Canine

**BREED**

Unknown

**SEX**

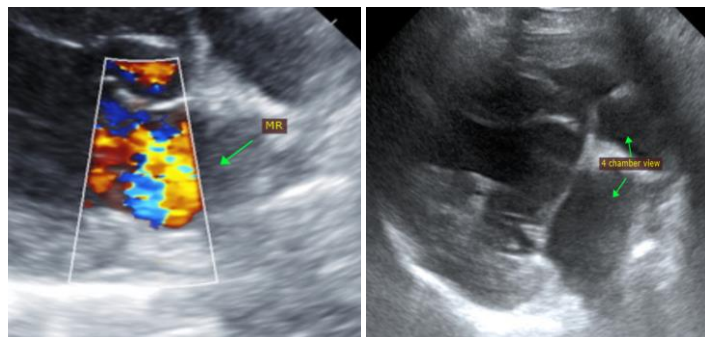
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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