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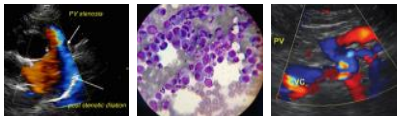

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**PATIENT**
Riley Wojciechowski

**SPECIES**
Canine

**BREED**
Mix

**SEX**
Male Neutered

**AGE**
6.27.10

**WEIGHT**
23.1lbs

**INTERPRETED BY**
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

**HOSPITAL NAME**
Eastern Animal Hosptial

**REFERRING VET**
Dr. Kaufman

**INVOICE**
32356

**DATE**
8.14.23

## PRESENTING CLINICAL SIGNS

History: Recheck echo.
-Current medications: Enalapril 5mg BID, Vetmedin 5mg ½ BID, Vetmedin 1.25mg ½ BID, Trazodone 100mg ¼-1/2 BID PRN, Dasuquin, Denamarin SID.
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results (8/8/2022 MML): Severe MR, moderate to severe LAE, mild LVE, mild RHE, mild TR, mild PAH: 3.0m/s. LA: 2.8, LV: 4.0.
-STAT: Not requested
-Imaging performed by: Andi Parkinson, BS, RDMS.

## ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at both 25 and 50mm/s; 2mm/mV. The average heart rate is 150bpm (range 136-166bpm). 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 morphology is positive with normal dimension. Tall R waves. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm. Tall R waves.

## ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with significant anterior leaflet prolapse. There is severe eccentric mitral regurgitation present. The MR velocity is elevated. There is severe left atrial enlargement. There is moderate left ventricular dilation. Left ventricular systolic function is hyperdynamic. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. The main pulmonary artery is normal in diameter. The pulmonic valve is normal in appearance. Normal right heart. Mild thickening of the tricuspid valve with no obvious TR. No pericardial/pleural effusion or cardiac masses are seen.

## 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 | 5.7 | NM | NM | 2.4 | 52 | 84 | 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 | 133 | 1.7 | 1.0 | 10.5 | 3.4 | 4.2 | 2.0 |

| *Normal chamber parameters expressed as a mean value (SD) | | | | |
|---|---|---|---|---|
| **BODY WEIGHT DEPENDENT PARAMETERS** **Note: All measurements based upon multi-modal images and methods. An average value is reported.* | 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) |
| | 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) |

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

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Compared to the prior study, there is overall stability. The left heart dimensions are slightly increased comparatively and remains severe overall. No concurrent issues have developed, and the ECG is unremarkable with a normal sinus rhythm.

Given these findings, continue Pimobendan and Enalapril going forward. Consider addition Spironolactone for potential long-term benefit. Lasix is not clearly warranted without development of clinical signs, which could occur at any time. Continued assessment of progression in the future will help predict long term outcome, however prognosis remains guarded at this stage (late B2). Unfortunately, the patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Close monitoring for development of associated clinical signs (development of a cough, labored breathing, exercise intolerance or worsening collapse episodes) is recommended. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.

Elective anesthesia remains contraindicated.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit.

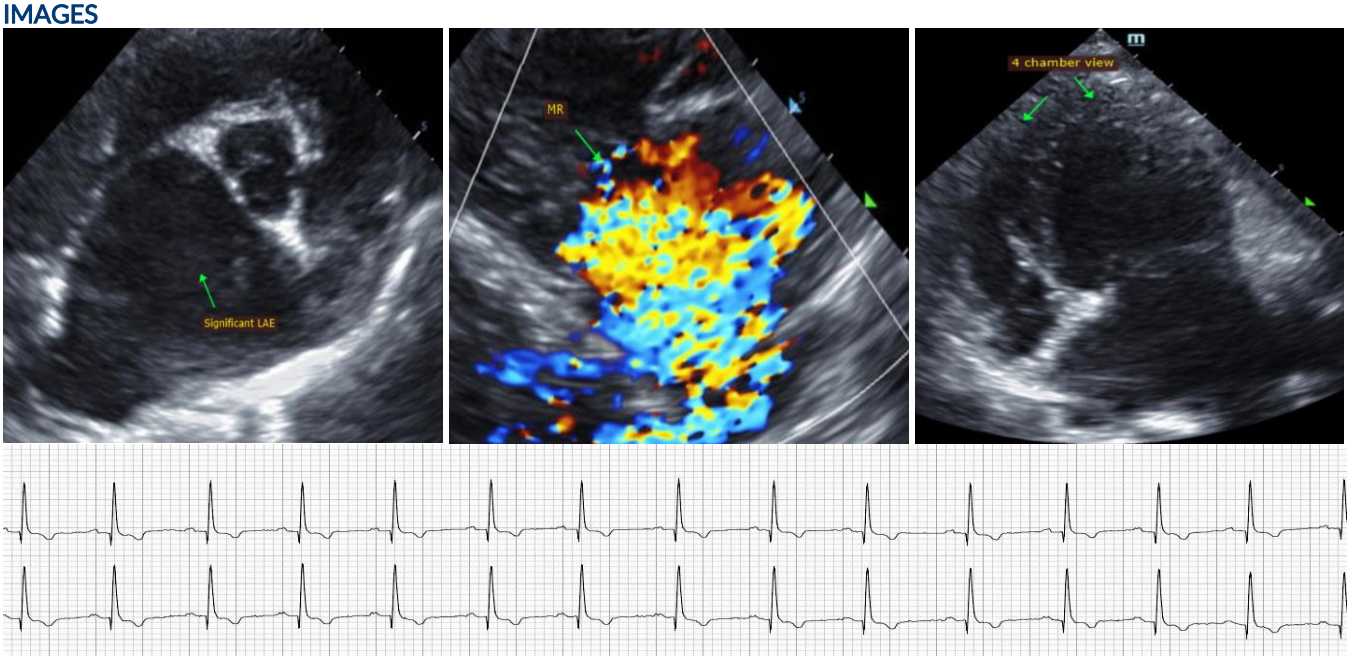
## PLAN

Continue Pimobendan and Enalapril as prescribed. Consider additional of Spironolactone if not being administered.

Monitor renal values/BP every 3-4 months lifelong to ensure tolerance of medications.

A recheck echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs arise.

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

**Maggie Machen Lamy, DVM**
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