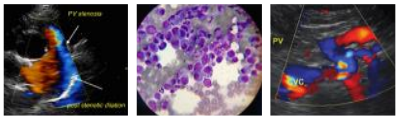
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

**PATIENT**
Riley Wojciechowski

**SPECIES**
Canine

**BREED**
Mix

**SEX**
Male Neutered

**AGE**
6.27.10

**WEIGHT**
24.6lbs

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

**HOSPITAL NAME**
Eastern Animal Hospital

**REFERRING VET**
Dr. Kaufman

**INVOICE**
25643

**DATE**
8.8.22

## PRESENTING CLINICAL SIGNS

History: Recheck echo. Grade 3 left sided murmur.
-Current medications: Vetmedin 5mg ½ BID, Vetmedin 1.25mg BID, Enalapril 5mg BID, Spironolactone 25mg BID.
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results (8/2021 MML): Severe MR, moderate to severe LAE, mild RHE, mild TR: 2.5m/s. LA: 2.8, LV; 3.8.
-STAT: Declined.
-Imaging performed by: Stephanie Warga RDCS, RVT.

## ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at both 25 and 50mm/s; 2mm/mV. The average heart rate is 140bpm (range 100-166bpm). 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 moderate to severe left atrial enlargement. There is mild 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. Mild right atrial and ventricular dilation (subjective). Mild thickening of the tricuspid valve with mild TR. Velocity consistent with early pulmonary hypertension. 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 | 5.3 | 3.0 | NM | 2.1 | 42 | 74 | 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 | 120 | 1.6 | 1.2 | 11.2 | 2.8 | 4.0 | 2.3 |
| *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) |

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

Chronic degenerative valve disease persists with persistent stability, which is remarkable given the timeframe. Severe mitral and mild tricuspid regurgitation are similar to previous without obvious progressive chamber enlargement. Early pulmonary hypertension is noted, which is not surprising; however, monitoring is advised. No additional issues are identified. The ECG is unremarkable with a normal sinus rhythm.

Given these findings and no clinical signs, continue support is recommended as previously prescribed. No obvious indication for additional medications prior to clinical signs and/or CHF. 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.

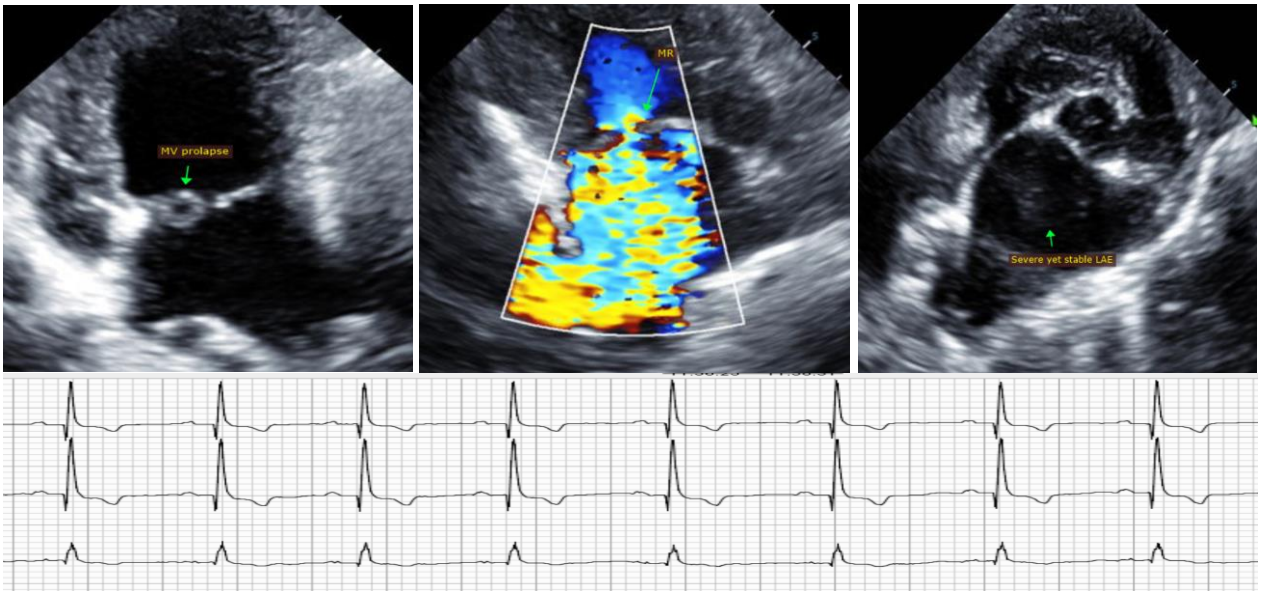
## PLAN

Continue 3 medications as prescribed.

Monitor renal values 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**
**Diplomate of the American College of Veterinary Internal Medicine (Cardiology)**
**info@sonopath.com**