



**PATIENT**

Lillie Perrigo

**SPECIES**

Canine

**BREED**

Pomeranian

**SEX**

Female Spayed

**AGE**

13 years

**WEIGHT**

6.7lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Sara Hansen

**HOSPITAL NAME**

Q Street Animal  
Hospital

**REFERRING VET**

Dr. Bretshneider

**INVOICE**

23185

**DATE**

3/18/22

**PRESENTING CLINICAL SIGNS**

History: Recheck echo. Doing well. Soft murmur on exam - grade 1.  
 -Current Medications: Vetmedin 1.25mg BID and low-dose Hydrocodone.  
 -Pertinent previous echo findings (9/2021 EL): CVD B2, cough.

**ECHOCARDIOGRAM FINDINGS**

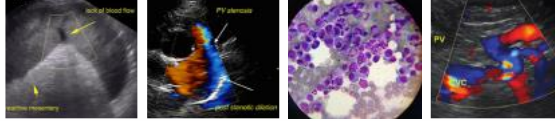
2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets (anterior>posterior) with mild prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with moderate left atrial dilation. Mildly increased LV diameter with hyperdynamic myocardial function. The tricuspid valve appears subjectively normal, with trace tricuspid regurgitation. Normal right atrial and ventricular diameter. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No aortic or 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            | NM            | 1.9                 | 1.8                     | 36                              | 67                                       | 0.1                                      |
| 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           | 1.3           | 1.0                 | 3.0                     | 2.5                             | 2.5                                      | 1.6                                      |
| *Normal chamber parameters expressed as a mean value (SD)  |               |               |                     | 3                       | 1.27 (5.3)                      | 2.46 (2.46)                              | 1.36 (5.5)                               |
| <b>BODY WEIGHT DEPENDENT PARAMETERS</b>  |               |               |                     | 5                       | 1.40 (4.5)                      | 2.74 (5.2)                               | 1.60 (4.7)                               |
| Adapted from June Boon, Veterinary Echocardiography, 1998<br>Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435<br>Hansson et al, Vet Rad and Ultrasound 2002<br>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 persists with moderate mitral and trace tricuspid regurgitation. Compared to what is noted in the prior study, these findings are similar. Moderate 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.



**PATIENT**

Lillie Perrigo

Given these findings, continue Pimobendan as prescribed. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (B2).

**SPECIES**

Canine

While mainstem bronchi compression may certainly be contributing to a chronic increase in coughing, other primary airway contributions should also be considered (tracheal collapse, COPD/chronic bronchitis, etc.). Consider hydrocodone for any mechanical component due to cardiomegaly. Screening chest radiographs are recommended.

**BREED**

Pomeranian

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.

**SEX**

Female Spayed

Anesthetic risk is considered mildly 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.

**AGE**

13 years

**PLAN**

Continue Pimobendan 0.3mg/kg PO q12h. Consider hydrocodone as needed. Baseline BP is recommended. Lasix is not indicated until onset of CHF.

**WEIGHT**

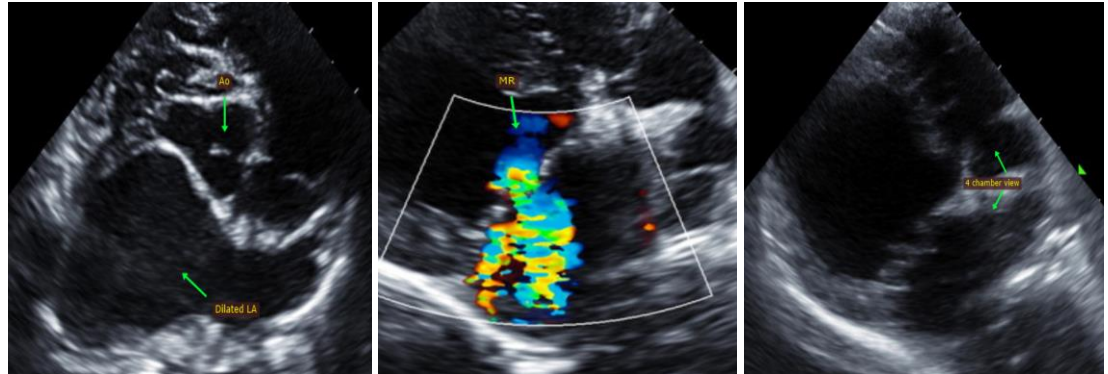
6.7lbs

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

**INTERPRETED BY**

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

**IMAGES**



**IMAGING PERFORMED BY**

Sara Hansen

**HOSPITAL NAME**

Q Street Animal Hospital

**REFERRING VET**

Dr. Bretshneider

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.

**INVOICE**

23185

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.

**DATE**

3/18/22

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