



PATIENT

Major Brumfield

SPECIES

Canine

BREED

Doberman

SEX

Male Neutered

AGE

9.28.12

WEIGHT

101lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

HOSPITAL NAME

Lake Shore Pet
Hospital

REFERRING VET

Dr. Anderson

INVOICE

22961

DATE

3.7.22

PRESENTING CLINICAL SIGNS

History: Possible cardiomegaly; elevated ProBNP.
-Pertinent abnormal PE/Chem/CBC/UA Results: NSF. ProBNP: 1126.
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results: No previous.
-STAT: Not requested
-Imaging performed by: Stephanie Pearce RDCS, RVT.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Moderate left ventricular dilation with moderately decreased systolic function. Mild to moderate left atrial enlargement. The mitral valve appears mildly thickened, with no obvious prolapse into the left atrial lumen. Mild central mitral regurgitation. Normal velocity. The tricuspid valve appears normal with trace tricuspid regurgitation. Normal velocity. No right atrial or ventricular dilation. No tricuspid regurgitation. The aortic valve is normal in morphology and mobility. No subvalvular ridge present; normal LVOT velocity. No aortic insufficiency. Normal pulmonic valve with no pulmonic insufficiency 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 | NM | 2.5 | NM | 1.44 | 16 | 30 | 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 | 112 | 1.7 | 1.3 | 45.8 | 3.6 | 6.1 | 5.1 |
| *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) |
| <i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i> | | | | 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

Unfortunately, this patient has changes consistent with early familial Dilated Cardiomyopathy (DCM). There is a decline in systolic function, with mild to moderate LA/LV dilation indicating current risk is relatively low. In the future the risk will likely increase for development of congestive heart failure, malignant arrhythmias (AF, VT), collapse and/or sudden death. Mild MR is identified, which is of little hemodynamic significance at this time. Based upon the Protect study, Pimobendan and close monitoring will help give the best prognosis possible. A baseline ECG and/or Holter monitor may also be helpful to screen for early occult ventricular arrhythmias particularly given the familial history of sudden death. Prognosis is guarded long term, with risk for progression to CHF, malignant arrhythmias and/or sudden death in the future.

Once on the medication for 3-5 days, anesthetic risk is considered moderate if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

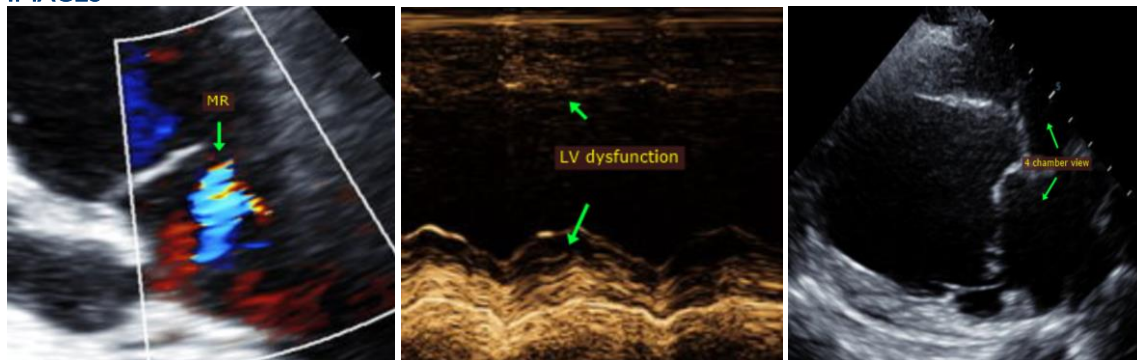
Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes in the future. Monitoring of sleeping breathing rates at home is recommended to screen for progression in the future. Mild activity restriction is advised. Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.

PLAN

Baseline BP and ECG/holter monitor as discussed. Institute Pimobendan 0.3mg/kg PO q12h.

A recheck echocardiogram is recommended in 6 months to assess 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