

PATIENT

Sherman Jordan

SPECIES

Canine

BREED

Dachshund

SEX

Male Neutered

AGE

11 years

WEIGHT

17lbs

INTERPRETED BY

Maggie Machen
 Lamy, DVM, DACVIM
 (Cardiology)

IMAGING PERFORMED BY

Sara Hansen

HOSPITAL NAME

Companion Animal
 Hospital

REFERRING VET

Dr. Acosta

INVOICE

25954

DATE

8/23/22

PRESENTING CLINICAL SIGNS

History: Treated for CHF since 12/21. Managed with w/ meds (see below) until 1.5 weeks ago when owner noticed rapid breathing and increased cough recently. Examined 8/18/22- Tachypnea w/ increased effort and increased lungs sounds L caudal field; Grade 5/6 systolic murmur (unchanged); irregularly irregular arrhythmia (new).
 -Abnormal PE/Chem/CBC/UA Results: WNL except ALP (143).
 -Current medications: Spironolactone 12.5mg QD, Lasix 12.5 mg BID and 6.25mg given mid-day, Pimobendan 2.5mg BID, Enalapril 5 mg BID

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

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 50mm/s, 5mm/mV. The average heart rate is 150bpm with a largely regular rhythm. P waves are difficult to visualize throughout; however, a sinus origin is suspected. P for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or dysrhythmias observed.
 ECG diagnosis: Normal sinus rhythm.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with marked left atrial dilation. Increased MR velocity. Mild LV dilation with hyperdynamic myocardial function. The tricuspid valve appears normal, with no TR. Mild right heart. The pulmonic and aortic valves are normal in morphology and mobility. Normal aortic and pulmonic outflow velocities with laminar flow. No AI/PI. No pericardial or pleural effusion noted. No obvious cardiac masses.

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 | 4.5 | | 2.8 | 2.5 | 40 | 70 | 0.4 |
| 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 | 110 | 1.6 | 0.7 | 7.7 | 3.3 | 5.0 | 3.0 |
| *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) |
| | | | | 10 | 1.50 (3.8) | 3.27 (3.5) | 2.06 (3.1) |



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|--|----|------------|------------|------------|
| 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 | 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

The cause of the murmur is chronic degenerative valve disease causing severe mitral regurgitation. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Early pulmonary hypertension is suspected, which is likely secondary to chronic LA pressure elevation. No additional issues are identified. The ECG is unremarkable with a normal sinus rhythm.

Even without obvious congestion on the included chest radiographs, given the severity of disease on echocardiogram in addition to reported clinical signs, more aggressive cardiac support is recommended as below. Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Cough suppression to improve QOL can also be considered (hydrocodone, 0.2-0.4mg/kg up to q4-6h PRN) for any residual mechanical cough in the face of normal sleeping respiratory rates. The average survival time of canine patients with active pulmonary edema is 8-9 months on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for acute progression of the cough, labored breathing, exercise intolerance or collapse episodes in the future.

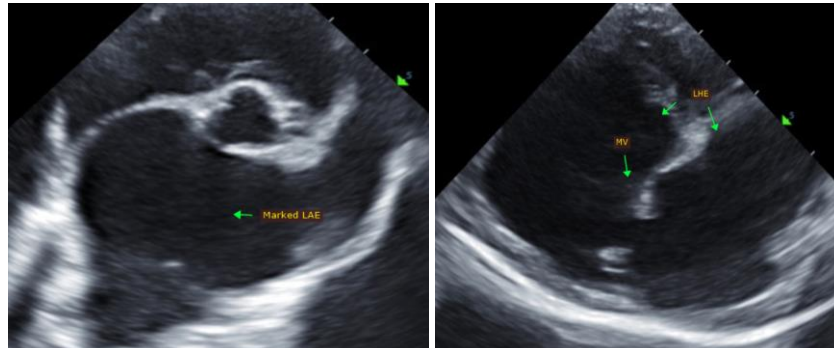
PLAN

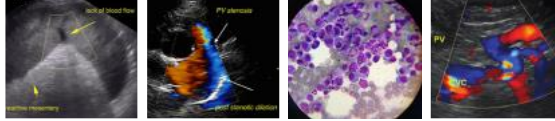
Increase Spironolactone to 12.5mg PO q12h. Continue Pimobendan and Enalapril as prescribed. Increase Lasix to 12.5mg PO q8h. Consider Hydrocodone if needed for quality of life.

Monitor SRRs at home. Monitor renal values and BP in 1-2 weeks, then every 3-4 months to ensure tolerance of medications.

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of associated clinical signs occurs in the interim.

IMAGES





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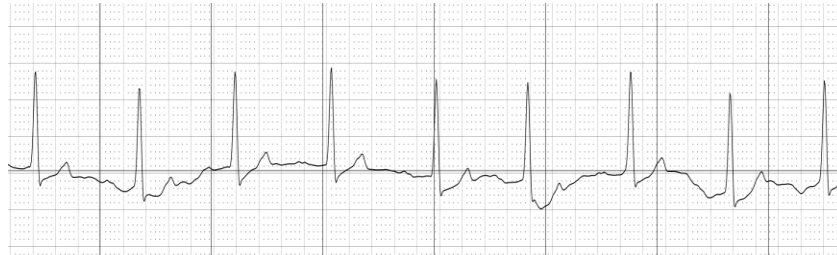
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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