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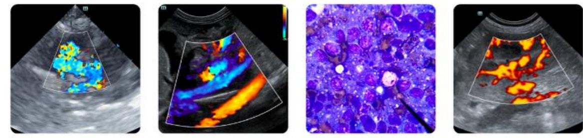

Clinical Sonography & Telecytology
Educational Teleconsultation Services™

PATIENT
Pierre Hartsell

SPECIES
Canine

BREED
Chihuahua Mix

SEX
Male Neutered

AGE
12 years

WEIGHT
7.1lbs

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

IMAGING PERFORMED BY
A. Nicastro, DVM

HOSPITAL NAME
Sun Dog Cat Moon

REFERRING VET
Dr. Clayton

INVOICE
46821

DATE
2/12/26

PRESENTING CLINICAL SIGNS

History: Recheck echo. History of tracheal collapse; hacking cough; has progressively worsened over past year. Have tried various antitussives (initially did prednisone, responded well, then tapered with transition to fluticasone inhaler but became refractory). Currently on Fluticasone 110mcg SID; Prednisone 1.5mg EOD, Theophylline 20mg SID, Hydrocodone 0.6mL PRN. Currently has hacking coughing episodes multiple times a day, set off by exercise, and laying down. Last a few minutes, dry hack/honking cough, ends with a gag. Otherwise, e/d normally, no vomiting. Grade 3/6 heart murmur. BP: 125mmHg. Sedated with Torb.
-Pertinent previous echo findings (8/2024 MML): CVD B1. Mild MR, no LA or LVE, mild TR, mild PAH: 3.0m/s.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Moderate diffuse thickening of mitral valve leaflets with prolapse into the left atrial lumen. Moderate mitral regurgitation with moderate left atrial dilation. Borderline LV with adequate myocardial function. The tricuspid valve appears thickened with mild to moderate tricuspid regurgitation. Mild to moderate right heart enlargement. TR velocity indicative of moderate pulmonary arterial hypertension. The MPA and branches are mildly dilated. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. 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	6.0	3.7	NM	1.7	52	80	0.2
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	NM	1.6	0.7	3.2	2.0	2.4	1.2
*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)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				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)

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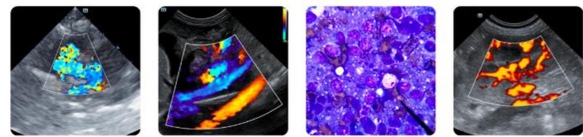

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease persists with evidence of progression. Previously mild MR has advanced to moderate, with increasing left heart dimensions. The tricuspid leak is now mild to moderate with progressive pulmonary hypertension and increasing right heart and MPA dimensions. 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 now elevated. No additional issues are seen.

Based upon these findings and the results of the EPIC trial, recommend institution of Pimobendan as below. Additionally, Sildenafil is recommended due to the significance of the findings and a chronic cough. Continued assessment of progression is recommended, with a guarded prognosis once in stage B2. Fifty percent of stage B2 patients typically develop CHF within 2-2.5 years of diagnosis. The median time to development of CHF in B2 cases treated with pimobendan is 3.5 years. Patient may be at risk for development of CHF, arrhythmias, and/or sudden death going forward.

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.

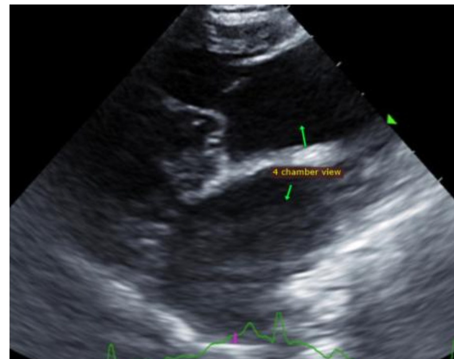
Once on the medication for 3-5 days, anesthetic risk remains mildly elevated. Cardiac protective drug choices (opioid/benzodiazepine premedication, Propofol or alfaxalone induction, iso or sevo gas) are recommended. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Judicious IV fluid rates are recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

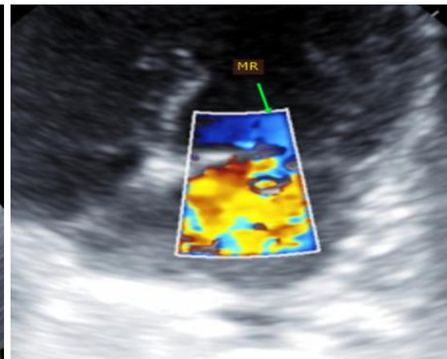
PLAN

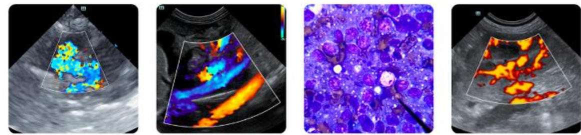
Baseline BP recommended every 6 months. Institute Pimobendan 0.25-0.3mg/kg PO q12h. Institute Sildenafil 1-2mg/kg PO q12h. Further cough workup as indicated by CXR report.

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

IMAGES







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