



PATIENT

Isaac Hare

SPECIES

Canine

BREED

Miniature Pinscher

SEX

MN

AGE

2008

WEIGHT

11.6lbs

PRESENTING CLINICAL SIGNS

History: Presented for history of chronic cough. On exam heart murmur grade 2/6 with mild diffuse crackling in the lungs. Has a history of chronic renal disease. Was started on Lasix 10/6/21 for possible fluid near heart base. Has a history of collapsing trachea as well.

Pertinent abnormal PE/Chem/CBC/UA Results: Interstitial lung pattern, increased opacity cranial dorsal chest on lateral. Mild increase in BUN.

Current medications: Lasix 12.5 mg BID, Gabapentin 100mg BID, Hydrocodone 1.5 mg TID, Galliprant. 20 mg 1/2 T SID.

Blood pressure: Not provided by the veterinarian.

Sedation used: Sedation not required for scan.

Pertinent previous ultrasound results: No previous IntraPet scans.

STAT: Not requested.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental information only.

Normal cardiac silhouette. No obvious evidence of CHF.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Mild eccentric mitral regurgitation with no left atrial dilation. Normal LV diameter with adequate myocardial function. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology. TR velocity indicative of early pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic and trival pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

CARDIAC CHART

INTERPRETED BY

Maggie Machen
Lamy, DVM, DACVIM
(Cardiology)

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	5.5	3.3	1.1	1.3	39	71	
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	130	0.8	0.72	5	1.7	2.4	1.4
*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

HOSPITAL NAME

Fullerton AH

REFERRING VET

Dr. Unger

INVOICE

20864

DATE

9/2/21

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing mild mitral and tricuspid regurgitation. Lack of significant left atrial enlargement indicates the current risk for complication is low. Mild pulmonary hypertension is noted, which is likely developing secondary to the cough/chronic airway disease. No concurrent issues such as systolic dysfunction are noted in this study.

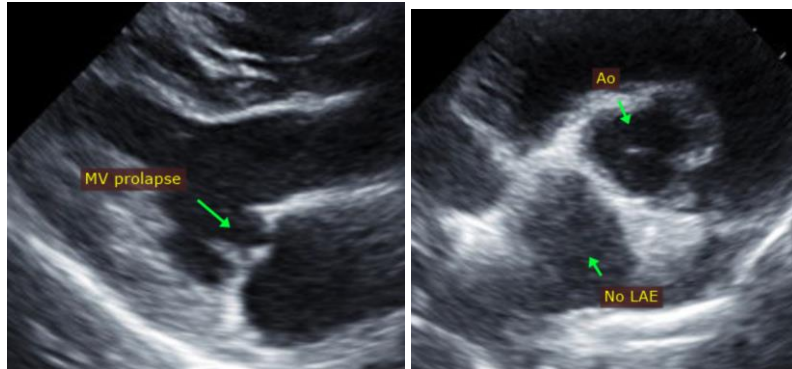
Given these findings, the cough is certainly non-cardiogenic in origin. If the cough is poorly controlled/progresses long term, this can certainly lead to worsening of PAH. No treatment is specifically indicated for PAH at this level; however, more aggressive cough control is the best way to prevent progression. Clinical signs of significant PAH include exertional dyspnea/collapse. Continued monitoring is advised. Cough control is recommended lifelong (hydrocodone, intermittent prednisone, fluoroquinolone for acute flare up, etc).

In a dog without significant left atrial enlargement, no cardiac medications are clearly indicated and Lasix should be discontinued. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage (B1). Omega fatty acid supplementation and mild salt restriction may be of some long term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

Anesthetic risk is considered mild 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.

PLAN: Discontinue Lasix. Recommend more aggressive cough work up/tx. Recommend conservative monitoring with a recheck echocardiogram in 6-12 months, sooner if any development of clinical signs.

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)

Email: info@sonopath.com