



PATIENT

Maggie Rehder

SPECIES

Canine

BREED

Chihuahua

SEX

Female Spayed

PRESENTING CLINICAL SIGNS

History: Heart murmur. Syncopal episodes.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with significant prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with moderate atrial enlargement. Borderline LV diameter with adequate function. The tricuspid valve appears thickened with septal prolapse and moderate tricuspid regurgitation. TR velocity consistent with moderate to severe pulmonary hypertension however this is likely an under-estimation. Mild RA/RV dilation with mild RVH. Mild MPA and branch prominence. The pulmonic and aortic valves are normal in morphology and mobility. No obvious aortic and mild pulmonic insufficiency. Normal pulmonic and aortic outflow velocities. No pericardial or pleural effusion noted. No cardiac tumors observed.

CARDIAC CHART

AGE

12 years

WEIGHT

8lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Sands Hill Mobile
Veterinary Ultrasound

HOSPITAL NAME

Whole Pet Vet

REFERRING VET

Dr. Rubendall

INVOICE

26729

DATE

10/5/22

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	5.9	4.3	2.5	1.9	55	87	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	190	1.0	1.0	3.6	2.0	2.8	1.3
*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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Significant pulmonary hypertension is present as evidence by an elevated TR velocity in addition to mild right heart enlargement. The estimated systolic pulmonary arterial pressure is >75-80mmHg, with normal being <25mmHg. Clinical signs of weakness, heavy breathing, cyanosis, and syncope are attributed to severe PAH. There is also hemodynamically significant left heart disease with severe mitral regurgitation and moderate left atrial enlargement.

The underlying genesis of PAH is poorly understood in cases other than heartworm infestation or known PTE, though it occurs with increased frequency in a variety of forms of airway disease and



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in patients with idiopathic pulmonary fibrosis. If not performed, a heartworm antigen test is recommended.

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These findings likely explain reported syncope and Sildenafil and Pimobendan are recommended as below. If respiratory signs are or were present, these are likely primary airway in origin and broad-spectrum antibiotic therapy, bronchodilators, etc. may be useful. It is important to note that pulmonary hypertension is rarely primary; more often it has developed secondary to primary airway disease. Patients with right heart changes secondary to PAH can eventually develop right-sided congestive heart failure (ascites), debilitating cyanosis and labored breathing and exertional syncope if poorly controlled.

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Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.

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Monitor for development of a labored breathing, worsening cough, exercise intolerance or collapse episodes in the future.

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Elective anesthesia is not advised.

PLAN:

Institute sildenafil 1-2mg/kg PO q8h. Administer Pimobendan 0.25-0.3mg/kg PO q12h. Consider airway workup/treatment depending on clinical signs.

Recommend recheck echocardiogram in 6 months to reassess structure and function, sooner if any development of clinical signs.

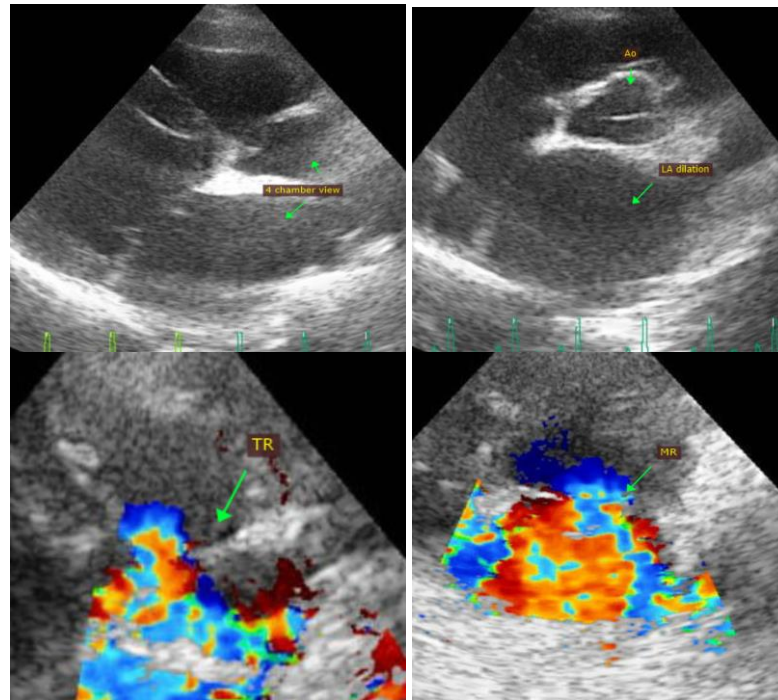
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IMAGES



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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.

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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.

BREED

Chihuahua

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