



PATIENT

Oscar Gier

SPECIES

Canine

BREED

Shih Tzu

SEX

Male Neutered

AGE

14 years

WEIGHT

20lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Julia Bakker, DVM

HOSPITAL NAME

Orange Blossom
Veterinary Imaging

REFERRING VET

Dr. Cardenas

INVOICE

45603

DATE

10/31/25

PRESENTING CLINICAL SIGNS

History: Presented to ER 10/21 for labored breathing. Diagnosed with Cushing's disease, pulmonary hypertension, gallstone/pseudomucocele, bladder stones, hepatomegaly, cardiomegaly, interstitial/bronchial pattern. On Sildenafil, Vetoryl, Ursodiol, Clopidogrel.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Trace eccentric mitral regurgitation with no left atrial dilation. No LV dilation with adequate myocardial function. The tricuspid valve appears mildly thickened with trace tricuspid regurgitation. Mild right atrial and ventricular prominence. Mild MPA and branch dilation. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No aortic and trace pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

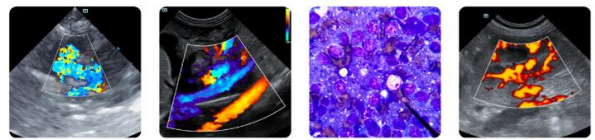
CARDIAC CHART

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	NM	NM	1.3	1.2	50	90	0.09
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	1.0	9.1	1.7	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)
<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)
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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing trace mitral and tricuspid regurgitation. Lack of significant left atrial enlargement indicates the current risk for left-sided complication is low. The TR is insignificant; however, mild right heart/MPA changes likely supports some degree of pulmonary hypertension. This is suspected to be mild to moderate, given the history. This is likely secondary to respiratory disease. No additional issues are seen.

The underlying genesis of PAH is poorly understood in cases other than heartworm infestation, though it occurs with increased frequency in a variety of forms of chronic lung disease and in patients with idiopathic pulmonary fibrosis. If not performed, a heartworm antigen test is recommended. Given the history, primary airway disease is the likely underlying issue. An acute



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increase in symptom with labored breathing is primary respiratory in origin, with a secondary exacerbating insult (infectious or inflammatory) suspected. It is important to note that the PAH does not cause the clinical signs; rather it develops secondary to airway disease/hypoxia.

SPECIES

Canine

Continued coverage with broad spectrum pulmonary antibiotic is recommended, with oxygen support and sedation as needed. Sildenafil may be reasonable if the patients clinical compromise was significant. Plavix is only necessary is there was great concern for a PTE, otherwise this is likely unnecessary. No obvious indication for Lasix at this time, as decreasing blood volume can further decrease preload and worsen clinical signs in the absence of CHF. Finally, given the totality of the findings continuing Pimobendan may also be reasonable.

BREED

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Use of theophylline and/or taper course of anti-inflammatory steroids can also be beneficial in these cases, to treat exertional dyspnea or acute flare ups and decrease the inflammatory component as much as possible. PRN use of cough suppressants may also be beneficial. Unfortunately, the prognosis overall is guarded to poor with severe airway disease.

AGE

14 years

Omega fatty acid supplementation (anti-inflammatory) may be of some long-term benefit. Monitor for worsening of labored breathing, exercise intolerance or collapse episodes.

WEIGHT

20lbs

PLAN

Reasonable to continue Sildenafil 1-2mg/kg PO q8-12h. Unless there is great concern for a PTE, Plavix is likely unnecessary.

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

Recommend recheck echocardiogram in 6-12 months to reassess pulmonary pressures, sooner if any development of clinical signs.

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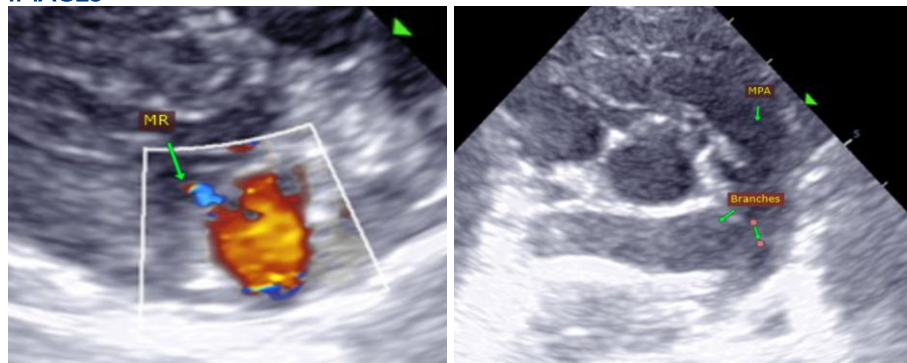
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IMAGES



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.

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