



PATIENT

Gizmo Machado

SPECIES

Canine

BREED

Chihuahua Mix

SEX

Male

AGE

20 years

WEIGHT

8.5lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Shohola Veterinary
Hospital

REFERRING VET

Dr. Gramazio

INVOICE

22666

DATE

2/17/22

PRESENTING CLINICAL SIGNS

History: Grade V/VI murmur. Syncopal episodes, coughing. No current medications.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with minimal prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with moderate left atrial dilation. No LV dilation with adequate myocardial function. The tricuspid valve appears thickened with mild tricuspid regurgitation. Velocity consistent with early pulmonary hypertension. No significant right heart enlargement. 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	5.2	3.0	NM	1.83	49	80	0.3
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	150	0.82	1.2	3.9	2.2	2.9	1.5
*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 moderate mitral and mild tricuspid regurgitation. Moderate left atrial enlargement indicates current relative stability with risk for progression to spontaneous congestive heart failure in the future. TR is also present with early pulmonary hypertension. No additional issues are noted at this time.

No definitive cardiac cause for the episodes is seen in this study (i.e., no significant PAH, no obvious rupture or tears, reasonable cardiac output, etc.) and other causes should be considered. These possible causes include vasovagal events, intermittent arrhythmias, early decompensation, neurologic/systemic issues, etc. Further historical information would be useful to help narrow down the differential list (such as length, situational component, etc.). Consider ECG/holter



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monitor, baseline BP, and screening chest radiographs (particularly in light of a cough) as a reasonable next step.

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Given these findings, it is responsible to institute Pimobendan given the degree of disease and risk for progression. A cough may or may not be cardiac in origin and baseline CXR are strongly recommended. Hydrocodone can be utilized for quality of life.

BREED

Chihuahua Mix

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.

SEX

Male

PLAN

Baseline BP is recommended. Institute Pimobendan 0.25-0.3mg/kg BID. Consider CXR, ECG, etc. as discussed. Further evaluation and historical information as advised.

AGE

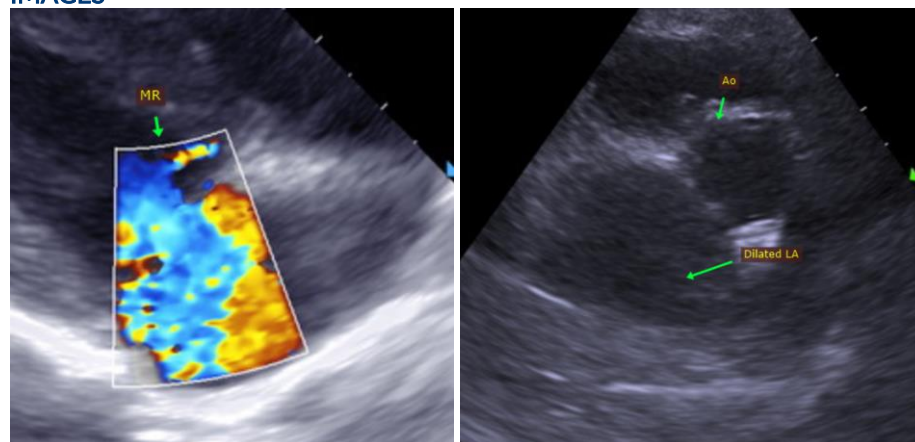
20 years

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

WEIGHT

8.5lbs

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.

REFERRING VET

Dr. Gramazio

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.

INVOICE

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