



PATIENT

Milo Luong

SPECIES

Canine

BREED

Torrie Shih Mix

SEX

Male Neutered

AGE

12 years

WEIGHT

22lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

C Belan, DVM

HOSPITAL NAME

Falconridge Animal
Hospital

REFERRING VET

Dr. Rix

INVOICE

26539

DATE

9/23/22

PRESENTING CLINICAL SIGNS

History: Grade 2/6 murmur. Asymptomatic. Previous diagnosis of systemic hypertension. Chronic kidney disease and glaucoma.

-Abnormal PE/Chem/CBC/UA Results: Mild elevation of kidney enzymes.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mildly thickened mitral valve leaflets with no obvious prolapse into the left atrial lumen. No MR. Normal left atrial dimension. Normal LV diameter with normal myocardial function. The left ventricular wall thickness is mildly increased (1.0cm globally) with a hyperechoic endocardium. The tricuspid valve appears subjectively normal, with no insufficiency seen. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Both the aortic (not captured on doppler) and pulmonic outflow velocities are suspected to be mildly elevated with laminar flow and no obvious obstruction. Mild AI and no PI noted. The aortic root and ascending segment are dilated. No pericardial or pleural effusion noted. No obvious cardiac tumors.

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	NA	NA	NM	1.1	68	95	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	130	1.0	3.0	10.0	2.0	2.3	0.7
*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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The finding of LV hypertrophy with a dilated aorta and aortic insufficiency is suspected to be secondary to reported systemic hypertension, although exact BP values and treatment are not discussed. There is also concern for volume issues in this patient, given a history of CKD and mildly elevated velocities through both major arteries which is the likely cause of the murmur. Further systemic evaluation is indicated to sort through the totality of the findings, including



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updated lab work, abdominal ultrasound and further blood pressure assessment. No additional issues are identified.

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High blood pressure should be treated in this patient as below, as indicated by the reported values and systemic evaluation. Assess for proteinuria, as additional medications may be warranted. SHT is a systemic issue that can have secondary cardiac changes, which is the case here. Internal medicine evaluation is strongly recommended. No cardiac specific medications are warranted at this time.

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Monitor at home for collapse, exercise intolerance, and/or lethargy.

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No contraindication for general anesthesia from a cardiac standpoint.

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PLAN

Depending on blood pressure assessment, current medications, etc. further vasodilation may be warranted. Consider repeat lab work, IM evaluation, etc.

Going forward, a recheck echocardiogram is recommended in 6-12 months to assess for progression/regression with adequate blood pressure control.

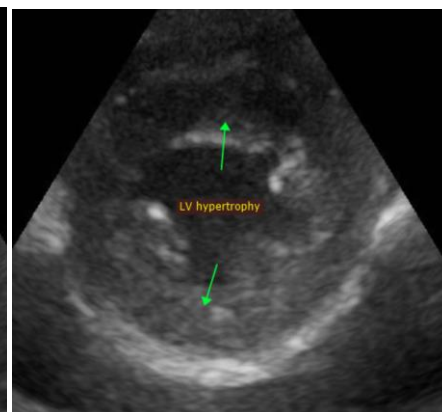
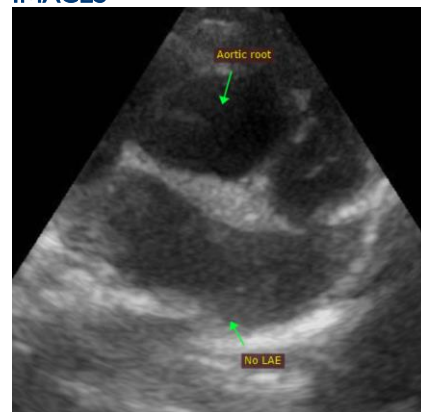
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IMAGES

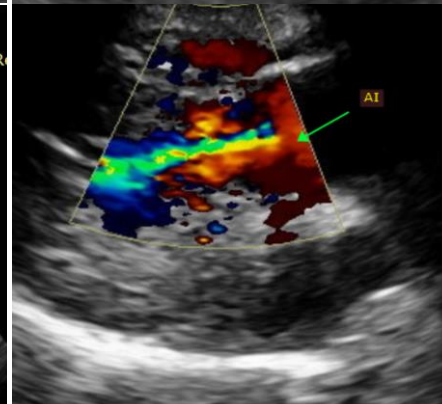
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

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