



PATIENT

Manny Durham

SPECIES

Canine

BREED

Toy Fox Terrier

SEX

Male Neutered

AGE

15 years

WEIGHT

11.8lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Jennifer Todd, DVM

HOSPITAL NAME

Lambs Gap Animal
Hospital

REFERRING VET

Dr. Campbell

INVOICE

28577

DATE

1/26/23

PRESENTING CLINICAL SIGNS

History: Progressive heart murmur, now grade 3. Elevated ProBNP: 1959. BP: 206, 200, 200mmHg. Sedated with Butorphanol 0.2mg/kg IM.

-Abnormal blood work: ProBNP at 1959, USG is 1.009, UPC of 3.6, SDMA (15, 0-14), BUN (38, 9-31), ALT (131, 18-121), ALP (341, 5-160) and GGT (18, 0-13).

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s, 10mm/mV. The average heart rate is 120bpm (range 83-150bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm with respiratory variation.

ECHOCARDIOGRAM FINDINGS

Mildly thickened mitral valve leaflets with no obvious prolapse into the left atrial lumen. Trace MR. Normal left atrial dimension. Small LV diameter with normal myocardial function. The left ventricular wall thickness is significantly increased (IVS/LVFWd 1.0cm) with a hyperechoic endocardium consistent with pressure overload. 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. Aortic outflow is normal. Mild aortic insufficiency. Normal pulmonic outflow velocities. No PI noted. 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	NM	NA	1.0	1.2	66	95	0.16
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	1.1	0.7	5.4	1.5	2.3	1.1
*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



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The finding of significant LV hypertrophy is most commonly secondary in dogs (rather than a primary myocardial disease), and in light of documented PLN/low USG and systemic hypertension this is likely the root cause. AI is present, which is also due to SHT causing pressure overload. There is trace MR seen, which may suggest early valve disease and follow up is advised should a murmur be auscultated in the future. Further systemic evaluation for kidney disease/PLN is indicated ASAP to address systemic issues. The ECG is unremarkable with a respiratory sinus arrhythmia.

High blood pressure should be treated in this patient ASAP as well, and consultation with an IM Specialist is recommended. Once the BP is controlled, reassessing the LV is recommended in 6 months to establish a baseline. Prognosis is guarded at this time.

Anesthesia is not advised prior to stabilizing systemic issues.

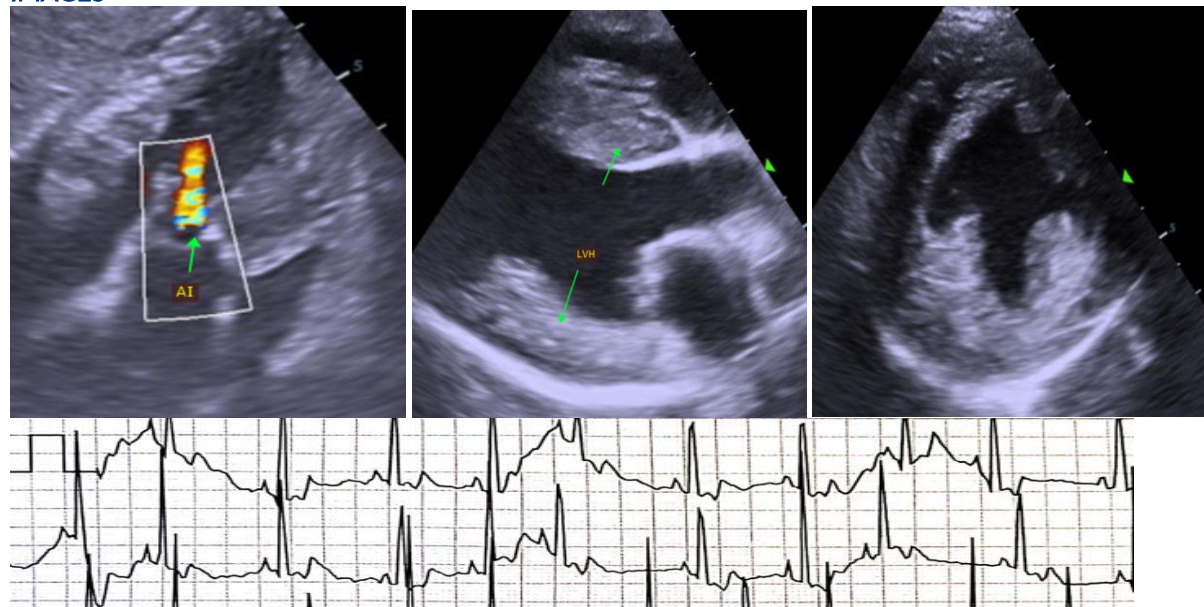
Monitor at home for collapse, exercise intolerance, and/or lethargy.

PLAN

Immediate vasodilator therapy is recommended as dictated by the IM consultation.

Going forward, a recheck echocardiogram is recommended in 6 months to reestablish a baseline.

IMAGES





PATIENT

Manny Durham

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.

SPECIES

Canine

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

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Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com

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