



PATIENT

Gordy Carson

SPECIES

Canine

BREED

Beagle Mix

SEX

Male Neutered

AGE

12.5 years

WEIGHT

19.8lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

A. Westcott, DVM

HOSPITAL NAME

Alastair Westcott,
DVM

REFERRING VET

Dr. Westcott

INVOICE

46663

DATE

2/2/26

PRESENTING CLINICAL SIGNS

History: Recheck echo. Long-standing heart murmur since adoption. Recently increased coughing and elevated resting respiratory rate. Initial improvement with Fluticasone inhaler and Meloxicam. CXR (3/21/25): showed cardiomegaly with left atrial enlargement without overt pulmonary edema and evidence of chronic bronchitis. Pimobendan was initiated with improvement. Echo (4/3/2025): CVD stage C with left-sided congestive heart failure and mild pulmonary hypertension. Despite therapy, coughing and resting respiratory rate worsened several months ago. Furosemide was increased to 30mg PO q8h resulting in improvement; current resting respiratory rate reported at 30-35bpm.

-Abnormal PE/Chem/CBC/UA Results: Slightly thin body condition score. Mildly increased respiratory rate and effort at rest. Mild tachycardia. Grade III/VI systolic murmur, PMI left apex. Louder grade IV/VI systolic murmur on right, consistent with radiation and/or tricuspid regurgitation. Pulses synchronous but mildly variable. Abdominal palpation: no significant findings. Mild non-regenerative anemia. Mild lymphopenia, likely stress related. Mild elevation in SDMA. Mild elevation in BUN. Adequate urine concentration. Normotensive at 130mmHg. CXR showed marked cardiomegaly, dominated by severe left atrial enlargement. Dorsal deviation of the trachea. Mild dilation of pulmonary veins. Right caudal pulmonary vessels significantly more dilated than left, supporting pulmonary hypertension. No overt cardiogenic pulmonary edema. No ascites.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with mild prolapse into the left atrial lumen. There is marked eccentric mitral regurgitation present. The MR velocity is normal. There is marked left atrial enlargement with a horizontal component. There is a region of dropout in the interatrial septum with visible flow across (L-R). There is marked left ventricular dilation indicative of volume overload. Left ventricular systolic function is hyperdynamic. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. No aortic insufficiency. The main pulmonary artery is mildly dilated. Normal pulmonic outflow velocity with laminar profile. Trace pulmonic insufficiency. Mild right atrial and right ventricular dilation. The tricuspid valve is mildly thickened with moderate tricuspid regurgitation. Velocity consistent with moderate pulmonary hypertension. No pericardial/pleural effusion or cardiac masses are seen.

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	5.1	4.0	>2.5	2.6	48	80	0.2
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	1.0	1.2	9.0	3.5	4.1	2.2
*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)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				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)

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



PATIENT

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)

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing marked mitral and moderate tricuspid regurgitation. Marked left atrial and ventricular enlargement indicates the risk for spontaneous congestive heart failure is high. There is evidence of a likely rupture in the interatrial septum (rule out PFO as an alternative), secondary to high left atrial pressure (acquired ASD). This is likely contributing to right heart enlargement and progressively elevated pulmonary pressures. This finding puts the patient at risk for right-sided CHF in addition to left in the future. No additional issues are identified.

Given these findings in addition to a clinical cough, full lifelong cardiac support should certainly be continued going forward. Sildenafil is not clearly indicated unless the patient is symptomatic (ie exertional collapse or exertional dyspnea, right-sided CHF) as the pressure elevation is at least in part due to the ASD. Repeat chest radiographs should be obtained if there is any recurrent clinical issues in the future.

Any cough is likely due to mainstem bronchi compression and hydrocodone is recommended for QOL. Monitoring of sleeping breathing rates is recommended as the best way to screen for improvement/recurrent CHF at home, and to determine cough origin going forward.

Unfortunately, with this degree of heart disease the prognosis is guarded to poor with an average survival time of <6 months at this point. Most dogs are able to maintain a good quality of life for the short term on medications. Going forward risk will remain for recurrent right or left-sided CHF, collapse episodes and/or development of arrhythmias/sudden death in the future.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

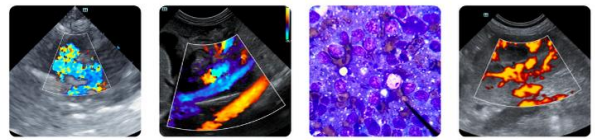
Elective anesthesia is not advised.

PLAN

Continue Furosemide 1-2mg/kg PO q8h. Institute Spironolactone 1-2mg/kg PO q12h. Continue Pimobendan **0.3mg/kg** PO q8h. Consider Hydrocodone if needed for QOL (up to q4-6h PRN).

Recheck a kidney panel and BP in 10-14 days, then every 3-4 months lifelong.

A recheck echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs arise.



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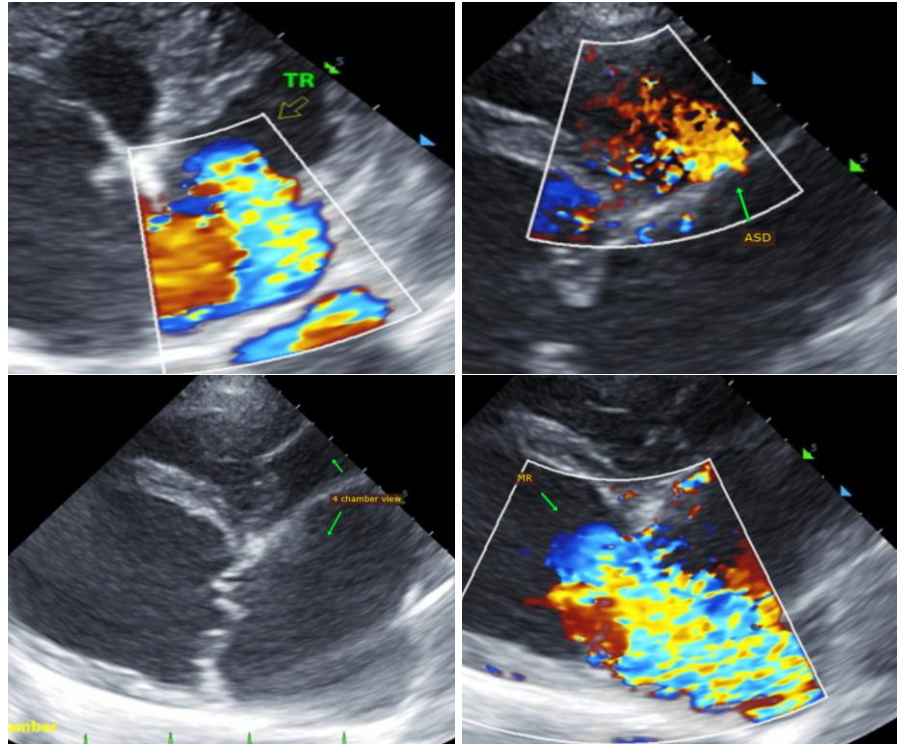
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IMAGES



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.

Maggie Machen Lamy, DVM
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