



PATIENT

Mack Lewiston

SPECIES

Canine

BREED

English Bulldog

SEX

Male Neutered

AGE

10 months

WEIGHT

41.6lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr. Evansville

INVOICE

26873

DATE

10/12/22

PRESENTING CLINICAL SIGNS

History: Presented for possible fluid in lungs. Coughing at night. Owners note that he seems to stop breathing, then hyperventilates and then normalizes. Decreased appetite but drinks lots of water. Heart auscultates WNL. At first puppy exam a heart murmur was noted then resolved with time. No murmur at the present. Lungs have increased sounds bilaterally, especially caudally.
-Thoracic radiographs (10/11/2022): 1. Right lateral: Fluid opacity in the cranial/ventral portion of thorax causing cranial heart silhouette to be obscured. Increase opacity in the perihilar region. Potentially thickened airways noted. Dorsal deviation of trachea. 2. Dorsoventral: No obvious opacity in the lungs. Mediastinum possible thickened. Heart deviated to the left (positioning?) Furosemide was given last yesterday and today. Seems to be doing better.
-Abnormal PE/Chem/CBC/UA Results: Mild monocytosis very mildly elevated phosphorus SPO2 on intake 94%

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild mitral valve thickening with no prolapse into the left atrial lumen. Trivial mitral regurgitation with no left atrial dilation. Normal MR velocity. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with no obvious tricuspid regurgitation. The right heart is prominent. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. Trace/mild aortic and trivial 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	4.8	NA	1.2	1.2	45	77	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	104	1.8	1.2	18.9	2.3	3.0	1.7
*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

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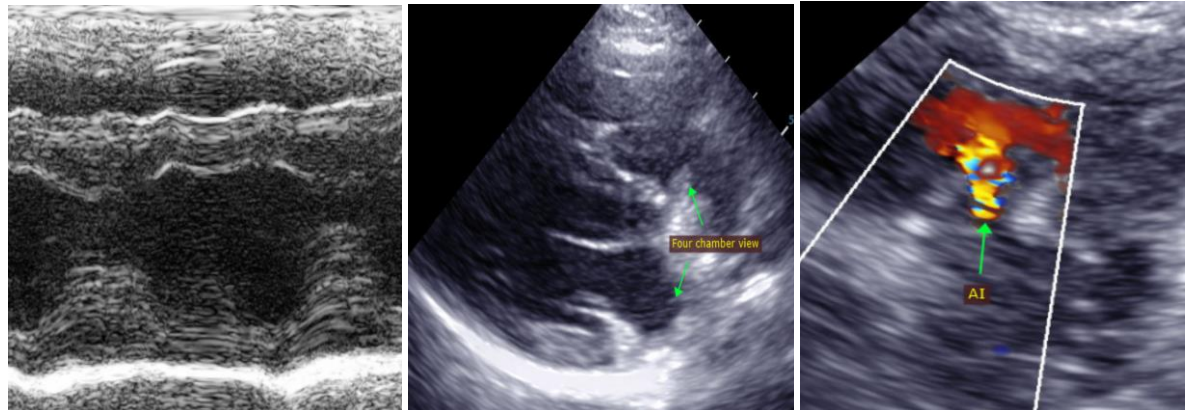
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overtly normal cardiac dimensions and function, with no obvious dysfunction or dilation of the left heart. The only abnormality identified is a small aortic leak and a prominent right heart. The former should be monitored going forward, as this may suggest a mild aortic valve abnormality. No obvious stenosis appreciated, without turbulent flow and what is seen here is hemodynamically insignificant. Additionally, mild right heart prominence is likely a normal variant, potentially exacerbated by current respiratory issues. No additional issues are identified.

No cardiac medications are indicated at this time as the cough/respiratory issues appear non-cardiac in origin. Continued work up for infectious/inflammatory respiratory causes is recommended. Options include Baytril or similar antibiotic, anti-inflammatory prednisone, aggressive hydrocodone, etc. If refractory, may consider TTW/BAL for further information.

Monitor for development of a heart murmur, cough, labored breathing, exercise intolerance or collapse episodes.

A recheck echocardiogram is recommended 1 year.

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. 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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