



PATIENT

Angel Woof Ave

SPECIES

Canine

BREED

Mix

SEX

Female

AGE

~15 months

WEIGHT

5.6lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Lindsey Daniel, DVM

HOSPITAL NAME

Countryside
Veterinary Clinic

REFERRING VET

Dr. Rider

INVOICE

21265

DATE

9/29/21

PRESENTING CLINICAL SIGNS

History: Continuous systolic murmur, subjective PMI left ventral chest.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is normal. No obvious mitral regurgitation. Mild to moderate left atrial enlargement. The LV is mildly dilated with increased sphericity. The tricuspid valve appears normal with no tricuspid regurgitation. 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. Normal pulmonic and aortic outflow velocities with laminar flow. Trace aortic and trace pulmonic insufficiency. Diastolic flow seen within the distal pulmonary artery; however, the region is not extensively visualized. No obvious additional congenital issues are seen. 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	NA	NA	NM	1.8	37	68	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	107	2.0	1.3	2.5	2.1	3.0	1.9
*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 primary finding in this study is mild left heart enlargement consistent with volume overload. A PDA is suspected based upon color flow; however, this is not confirmed using spectral or 2D imaging. Other possibilities remain a possibility; however, no additional congenital issues are visualized making a PDA the likely diagnosis.

Referral to an Attending Cardiologist is highly recommended for further evaluation and advanced echocardiography. Accurate identification of shunts is highly important particularly with cardiac chamber enlargement, as there is potential for surgical correction and changing long term outcome.



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Given these findings, Pimobendan is recommended as below. No additional medications are indicated at this time. Monitor for development of a cough, labored breathing or syncopal episodes.

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Elective anesthesia is not advised prior to referral. If the PDA is bidirectional or other comorbidities identified, the procedure may become contraindicated. Additionally, many PDAs will experience relatively rapid progression and succumb to the abnormality within the first years of life if not corrected. Consider follow up over the next 6 months prior to considering a spay procedure. Should you elect to go forward, anesthetic risk is considered moderately elevated if needed based upon what is seen here. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

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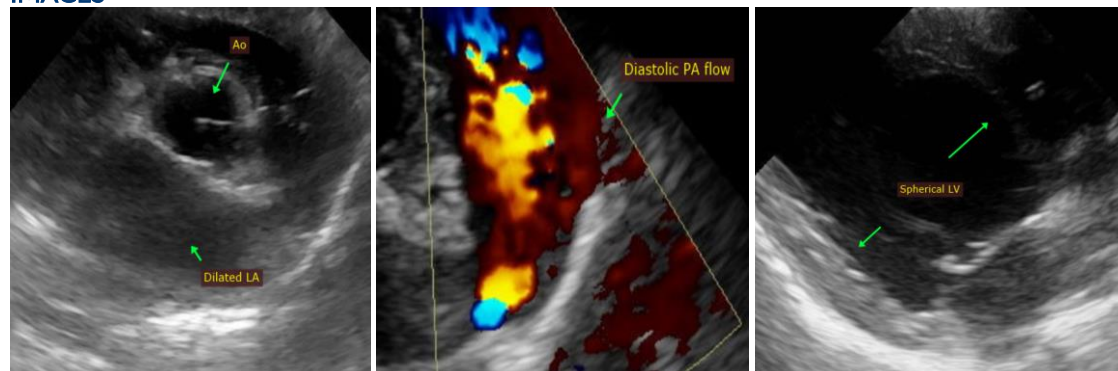
PLAN

Referral to a local Cardiologist for further assessment. Institute Pimobendan 0.3mg/kg PO q12h. Reassess in 6 months, sooner if clinical signs arise.

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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.

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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