



PATIENT

Stewie Dunin-Borkowska

SPECIES

Canine

BREED

Malamute Lab Mix

SEX

Male

AGE

1 year

WEIGHT

89.7lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Mark van Campen,
DVM

HOSPITAL NAME

Mississippi Hills
Animal Hospital

REFERRING VET

Dr. van Campen

INVOICE

25737

DATE

8/11/22

PRESENTING CLINICAL SIGNS

History: Heart murmur detected at pre-op exam for neuter. Grade I/VI systolic heart murmur. No clinical signs. Offspring of Bitch with known aortic stenosis (accidental breeding).

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no obvious prolapse into the left atrial lumen. No mitral regurgitation; normal left atrial dimension (LA:Ao falsely elevated due to small aortic root). Normal LV diameter with adequate myocardial function. Normal LV wall thickness. Mild remodeling/fibrosis of the endocardium. The tricuspid valve appears normal in form and function. Mild TR. RA/RV appear normal (subjective). The pulmonic valve normal in morphology and mobility. Normal pulmonic outflow velocity. Mildly hypoplastic aortic root. No obvious subvalvular ridge evident. Mildly increase aortic outflow velocity; max 3.3m/s. Mild thickening of the aortic valve. Trace aortic and mild pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac tumors 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	NA	NM	NM	1.39	36	70	NM
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	3.3	1.2	40.7	3.2	5.0	3.2
*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)
<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 cause of the murmur is mild aortic stenosis, with a mildly thickened aortic valve. A small aortic leak is visualized, secondary to the abnormal valve. In addition, there is a hypoplastic (small) aortic root which is clinically insignificant. No obvious subaortic ridge is visualized. A normal LV wall thickness indicates the disease is likely of little clinical significance, as there are no obvious compensatory changes to the myocardium. Mild TR is noted as well, which is of little hemodynamic significance at this time. Monitoring is advised. No additional issues are visualized.



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No cardiac medications are indicated at this time. From a cardiac standpoint, monitor for development of a labored breathing, exercise intolerance or collapse episodes lifelong.

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From a structural standpoint, anesthetic risk is low. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless clinically indicated. **Recommend prophylactic antibiotics for any orthopedic or dental procedure in the future given slight predisposition to endocarditis.**

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Recommend recheck echocardiograms annually to screen for progression or development of disease the pre-existing murmur may mask.

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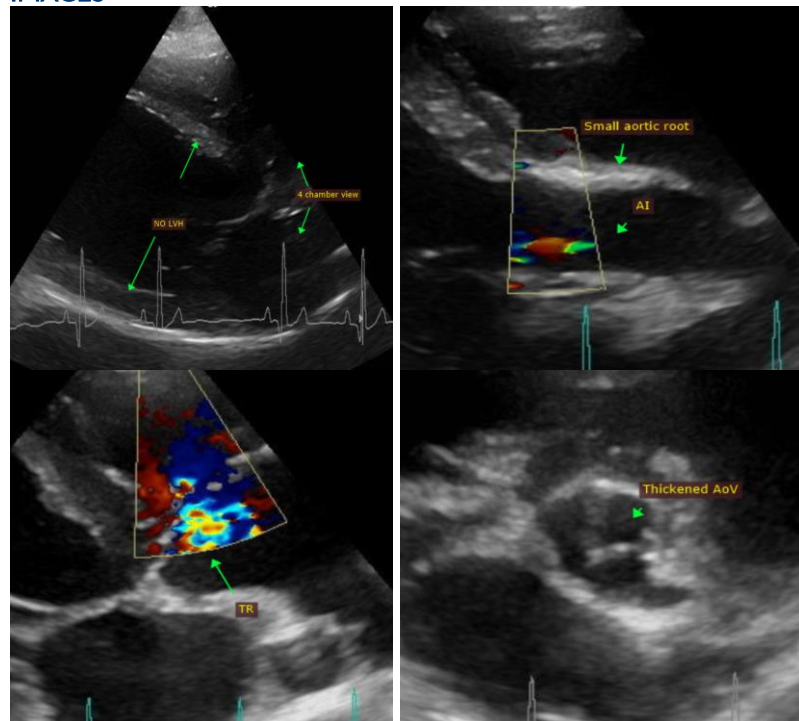
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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Maggie Machen Lamy, DVM
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