IMAGING PERFORMED BY

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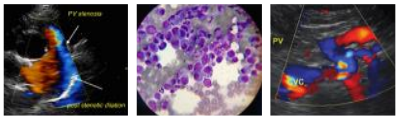

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PATIENT
Lennon Harder

SPECIES
Canine

BREED
Golden Retriever

SEX
Female Spayed

AGE
10.8.17

WEIGHT
60lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

HOSPITAL NAME
Hickory Veterinary Hospital

REFERRING VET
Dr. Silcox

INVOICE
26976

DATE
10.18.22

PRESENTING CLINICAL SIGNS

History: New grade 2/6 murmur on left side found at wellness exam. Asymptomatic.
-Current medications: None listed.
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results: No previous.
-STAT: Not requested.
-Imaging performed by: Stephanie Warga RDCS, RVT.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve leaflets appear normal in form and function with no thickening or prolapse into the left atrial lumen. No mitral regurgitation noted with normal left atrial dimension. Normal LV diameter with adequate myocardial function. Normal LV wall thickness. The tricuspid valve appears subjectively normal, no tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology. The pulmonic valve is normal in morphology and mobility. The aortic valve is normal with no aortic insufficiency. Mild subaortic narrowing (see below). Normal pulmonic and mildly elevated aortic outflow velocity. No pulmonic or aortic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors identified.

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	1.3	33	62	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	170	2.7	3.0	27.2	2.8	4.2	2.6
*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)
				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

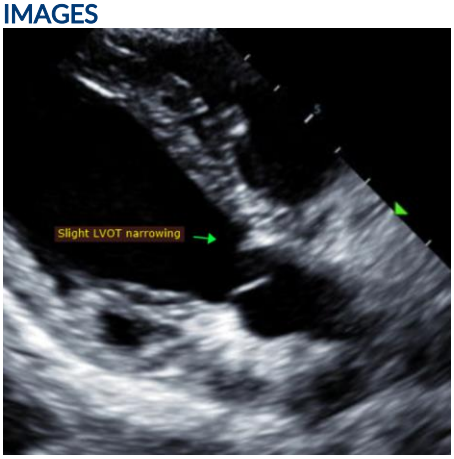
Mild sub-aortic stenosis is identified, causing a mildly elevated aortic outflow velocity. The finding appears hemodynamically insignificant without LA or LV changes. This condition can be exacerbated by volume status changes (anemia, dehydration) and/or heart rate, and may cause the murmur intensity to wax and wane. Screening lab work is recommended to assess for any of these underlying changes. No additional issues are identified.

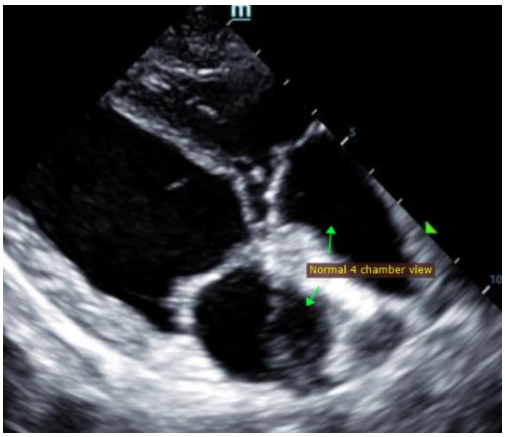
From a cardiac standpoint, monitor for development of labored breathing, exercise intolerance or collapse episodes, as SAS patients are more predisposed to development of arrhythmias than to CHF. No cardiac medications are indicated however as most patients with a mild SAS will live a normal life free of complications.

Anesthetic risk is low. 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. Monitor ECG both intra and post-operatively closely, given the breed predisposition to ventricular ectopy.

A recheck echocardiogram is recommended in 1-2 year to screen for development of disease the pre-existing murmur may mask.

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.

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