



PATIENT

8672 Flint Prince
George Humane
Society

SPECIES

Canine

BREED

German Shepherd

SEX

Female

AGE

10.2 months

WEIGHT

52.9lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Sammi Fuller, DVM

HOSPITAL NAME

Hart Family VC

REFERRING VET

Dr. Fuller

INVOICE

46196

DATE

12/15/25

PRESENTING CLINICAL SIGNS

History: Grade 2-3/6 heart murmur. Mild azotemia. BP: 109mmHg x 5. Assess prior to anesthesia for spay.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

Normal cardiac silhouette. Bulge in the region of the great vessels. No obvious evidence of CHF.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip.

Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s. The average heart rate is 120bpm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed.

ECG diagnosis: Normal sinus rhythm with respiratory variation.

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 with trace 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 trace aortic insufficiency. Subaortic narrowing is visualized (see below). Dilation of the aortic root and ascending segment. Normal pulmonic and mild to moderately elevated aortic outflow velocity. No pulmonic 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	NM	NM	1.2	36	67	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	3.5	1.2	24.0	2.7	3.6	2.3
*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



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

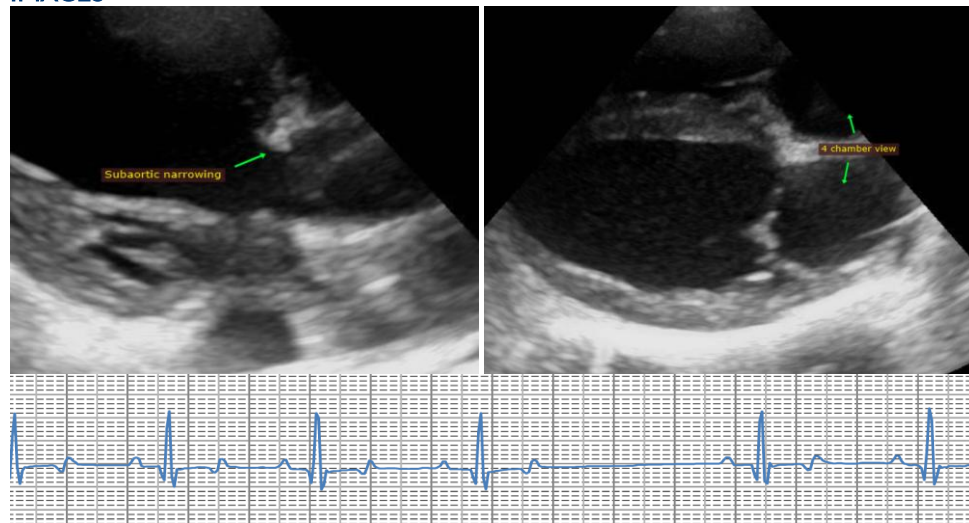
The cause of the murmur is elevated blood flow velocity through the LVOT and aortic root, consistent with mild to moderate sub-aortic stenosis (SAS). The LV wall dimensions are normal, indicative of no significant pressure overload. The remainder of the study is largely unremarkable. The ECG is normal with a respiratory sinus arrhythmia.

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. That said, no cardiac medications are indicated as most patients with mild SAS will live a normal life free of complications. It should be noted that outflow tract obstructions can worsen up to a year of age and monitoring is advised. Should the stenosis worsen and/or any clinical signs arise, Atenolol can be instituted.

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 predisposition to ventricular ectopy.

A recheck echocardiogram is recommended in 1 year to screen for progression and need for medication.

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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