



PATIENT

Ella Donithan

PRESENTING CLINICAL SIGNS

History: Progressive grade 3 left sided PMI murmur. Recently started coughing.
-Radiograph review: Did not look like cause of cough was likely cardiac.

SPECIES

Canine

BREED

Golden Retriever

SEX

Female Spayed

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Trace mitral regurgitation. Normal left atrial dimension. No LV dilation with adequate myocardial function. Mild LV hypertrophy. The tricuspid valve appears subjectively normal, with trace tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic valve is normal in morphology and mobility. Normal pulmonic outflow velocity with laminar flow. No pulmonic insufficiency. Thickened aortic valve leaflets. There is mild to moderate aortic stenosis present with narrowing of the sub-aortic region. Trace aortic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors seen.

CARDIAC CHART

AGE

6 years

WEIGHT

85lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Sarah Pender, CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

Dr. Biles

INVOICE

21027

DATE

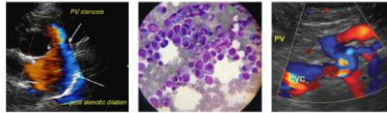
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CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	Nm	2.0	NM	1.2	37	70	0.4
CANINE CARDIAC PARAMETERS	HR (BPM)	AV 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	135	3.5	1.2	38.6	2.6	3.8	2.4
*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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is mild to moderate aortic/sub-aortic stenosis (SAS) causing elevated blood flow velocity through the LVOT and aortic valve. The LV walls are mildly hypertrophied secondary to the stenosis; however, the remainder of the cardiac structure and function appears adequate. Trace leaks in the mitral and tricuspid valves are considered physiologic at this time. Most importantly, the LA is normal in dimension indicating the risk for complication remains low.

Aortic stenosis is most commonly a congenital disease, which is present from birth. Assuming this is a chronic murmur, this is considered likely. Assessing for fluid status changes that may make the finding more apparent on exam is recommended. Monitoring is advised going forward for any progression.

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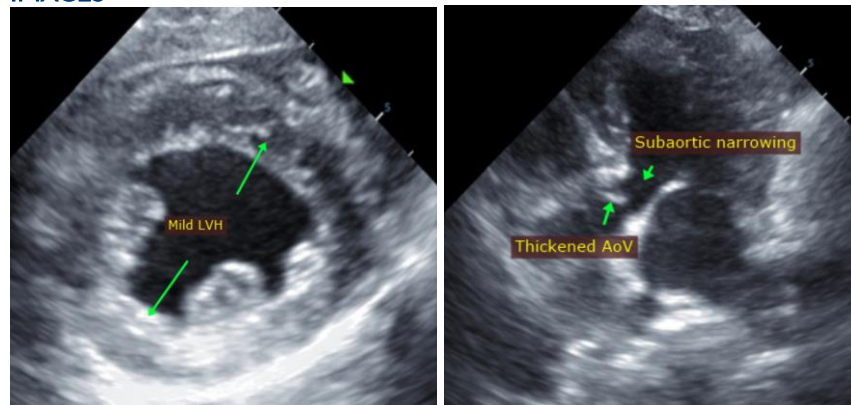
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Prognosis is open, with many dogs in the mild/moderate category never experiencing associated clinical signs and others ultimately succumbing to malignant arrhythmias. If there is progression in the future, this will dictate a more guarded prognosis. Serial echocardiography is recommended lifelong to continue assessment for progression and risk for complication. Monitor for development of labored breathing, exercise intolerance or collapse episodes, as AS patients are more predisposed to development of arrhythmias than to CHF which is actually very uncommon. Mild exercise restriction is advised. Omega fatty acid supplementation (1000mg 1-2x daily) is of some long-term benefit for dogs predisposed to arrhythmias. Atenolol is often used in severe cases to decrease heart rate, however in a case that is borderline mild/moderate this is not indicated at this time.

Given these findings, the cough is unlikely to be cardiac in origin and primary respiratory causes should be considered. Consider further respiratory work up/treatment (hydrocodone, taper course of steroids, Enrofloxacin, TTW/BAL, etc.).

If needed, anesthetic risk is mildly elevated. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless clinically indicated. Avoid ketamine and acepromazine due to peripheral vascular effects. Mild IV fluid restriction is advised. Recommend prophylactic antibiotics prior to and during any orthopedic or dental procedure in the future given predisposition to endocarditis.

Recommend recheck echocardiogram yearly to screen for progression, sooner if clinical signs arise.

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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