



PATIENT

Eden Wilberg

PRESENTING CLINICAL SIGNS

History: Previous history of a grade 2/6 heart murmur which advanced to a 3/6 and presented today with a 4/6 both sides with a thrill.

SPECIES

Canine

BREED

Cattledog Mix

SEX

Female Intact

AGE

12 months

WEIGHT

29.2lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr. Kumar

INVOICE

24671

DATE

6/8/22

ECHOCARDIOGRAM FINDINGS

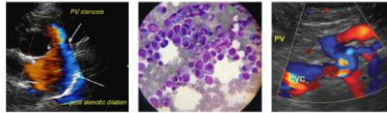
2D, m-mode, color flow and doppler imaging is available. Mild thickening of the mitral valve with no obvious prolapse or anterior motion identified. Trace central mitral regurgitation. Normal left atrial dimension. Normal LV diameter with adequate myocardial function. Normal LV wall thickness. The tricuspid valve appears normal in form and function. Trivial TR. Normal velocity. 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. Subvalvular narrowing of the LVOT appreciated. Normal pulmonic outflow velocity with a dynamic profile. Mildly increase in aortic outflow velocity. Normal pulmonic outflow velocity. Mild AI and trace PI. 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	5.0	2.3	1.4	1.2	60	92	0.2
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	100	3.0	1.6	13.2	2.1	2.7	1.1
*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 subaortic stenosis (SAS) causing elevated blood flow velocity through the LVOT and aortic valve. The peak gradient seen here is consistent with a mild stenosis (36mmHg) and the LV appears normal with no evidence of significant pressure overload. Mild aortic insufficiency is noted, which should be monitored going forward. Additionally, trace leaks are noted in the mitral, tricuspid and pulmonic valves. None which appear hemodynamically significant. Regardless, all of the findings appear mild and are likely of little consequence in this animal lifelong. It is important to note that small abnormalities are easily missed on congenital exams. These findings don't necessarily explain a loud progressive murmur with a thrill, although



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heart rate dependence/variations may be contributing. If there is any question, referral to a local Cardiologist should be recommended.

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Typically, the prognosis with mild SAS is good, with most dogs able to live a normal lifespan free of complication. Serial echocardiography is recommended lifelong to continue assessment for progression and risk for complication.

BREED

Cattledog Mix

Monitor for development of labored breathing, exercise intolerance or collapse episodes, as SAS patients are more predisposed to development of arrhythmias than to CHF. Mild exercise restriction is advised. Omega fatty acid supplementation (1000mg 1-2x daily) is of some long-term benefit for dogs predisposed to arrhythmias.

SEX

Female Intact

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.

AGE

12 months

PLAN

No medications are clearly indicated at this time.

WEIGHT

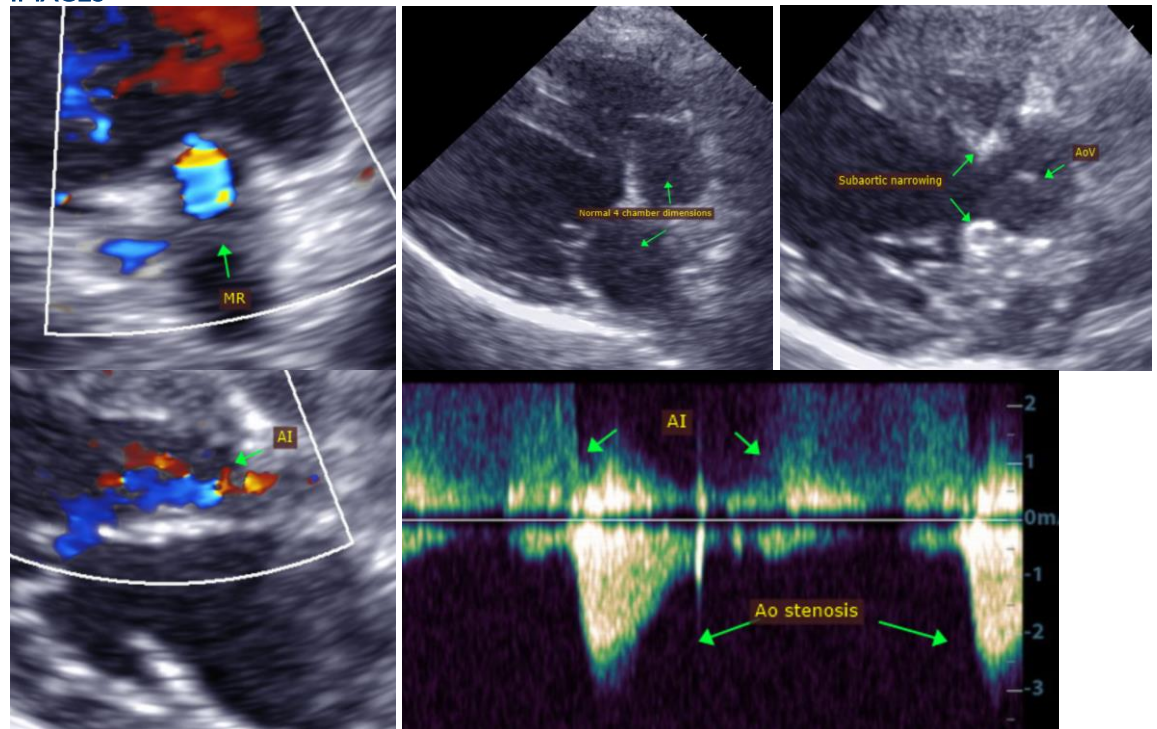
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Recommend recheck echocardiogram in 12 months to screen for progression, sooner if clinical signs arise.

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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.

SPECIES

Canine

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
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com

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