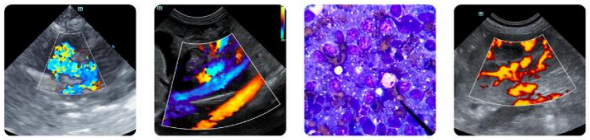

PATIENT
Murphy Smith

SPECIES
Canine

BREED
Whippet

SEX
Male Neutered

AGE
10 years

WEIGHT
39.2lbs

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

IMAGING PERFORMED BY
Patti Mayfield, DVM

HOSPITAL NAME
Smily Dog Veterinary Services

REFERRING VET
Dr. McSwain

INVOICE
46088

DATE
12/8/25

PRESENTING CLINICAL SIGNS

History: Recheck echo (12/2024); well compensated CVD stage B1 with TR only. Grade 1/6 heart murmur. Doing well. Elevated BNP: 2201.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild thickening of the mitral valve leaflets with no obvious prolapse into the left atrial lumen. No mitral regurgitation is identified. Normal left atrial dimension. Normal LV diameter with adequate myocardial function. The tricuspid valve appears mildly thickened with trace tricuspid regurgitation. Velocity consistent with early pulmonary hypertension. The right heart is normal (subjective). The pulmonic and aortic valves are normal in morphology and mobility. No aortic abnormalities identified; however, the LVOT velocity is mildly elevated. Normal pulmonic outflow velocities. Trace aortic and no pulmonic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors observed.

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	3.0	NM	1.0	36	67	0.3
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	2.1	0.9	17.8	2.0	3.4	2.2
*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)
**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)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				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

Overtly normal cardiac dimensions and function. Trace/mild TR with mild valve thickening may reflect early valve disease, as was mentioned previously. That being said, what is seen here is unlikely to cause an auscultable murmur. The velocity is unexpectedly consistent with early pulmonary hypertension, which is of unknown significance in an asymptomatic dog. The murmur appears to be due to increased flow velocity through the LVOT/aortic root. No obvious subaortic narrowing or valvular abnormalities are visualized, and in the absence of structural issues this is considered a benign flow murmur. If the murmur persists or progresses, it is reasonable to monitor periodically via recheck echocardiography in the future. Additionally screening for fluid status abnormalities (dehydration, anemia, etc.) is recommended through routine lab work as

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volume changes can make this finding more prevalent. A small aortic insufficiency is noted, and a baseline BP is recommended. No additional issues are seen.

A structural cause for NT-proBNP elevation is not apparent here, making this potentially a false positive result (a known weakness of the test). Other possible causes for elevated levels of the enzyme should be considered, such as significant arrhythmias, hyperthyroidism, systemic hypertension or renal disease. If no obvious cause is identified, reassessing this patient in 6-12 months is recommended to ensure early disease was not missed.

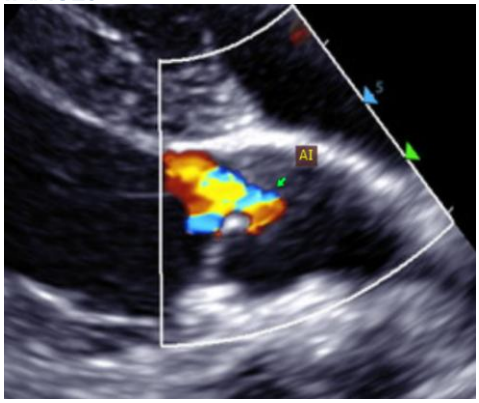
No cardiac medications are indicated. Prognosis is open.

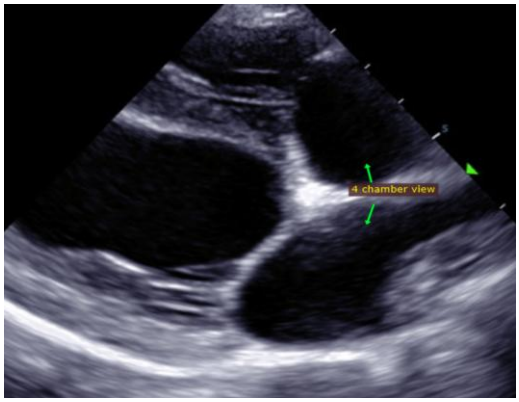
No cardiac contraindication for general anesthesia.

Monitor for any development of cough, labored breathing or exercise intolerance.

Recommend recheck echocardiogram in 12-18 months to screen for development of concurrent cardiac disease that the preexisting 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.

Maggie Machen Lamy, DVM
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