



PATIENT

Kodi Snyder

SPECIES

Canine

BREED

Chinese Crested

SEX

Male Neutered

AGE

6.13.11

WEIGHT

7.2lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

HOSPITAL NAME

Banfield Timonium

REFERRING VET

Dr. Kameka

INVOICE

31770

DATE

7.10.23

PRESENTING CLINICAL SIGNS

History: Presents for heart murmur. Is currently on Pimobendan and started Enalapril yesterday 7/5/23.
 -Blood pressure: prior to enalapril average 180mmHg.
 -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. Minimal diffuse thickening of mitral valve leaflets with no obvious prolapse into the left atrial lumen. Trace mitral regurgitation is identified. Normal left atrial dimension. Decreased LV diameter with adequate myocardial function. Mild LV hypertrophy. The tricuspid valve appears subjectively normal, with trace tricuspid regurgitation. Normal velocity. The right heart is normal (subjective). No overt evidence of pulmonary arterial hypertension. 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. Trivial 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	NM	2.3	NM	1.3	33	65	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	160	2.7	1.4	3.3	1.5	2.3	1.5
*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

The only cause of a murmur identified is increased flow velocity through the LVOT/aortic root. No obvious subaortic ridge or valvular abnormalities are visualized, and in the absence of structural abnormalities this is considered a benign flow murmur. If this is a new murmur, 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 these abnormalities would make this finding more prevalent. Mild LV hypertrophy is noted with a small internal dimension, which may further support volume depletion. The BP is mildly elevated for a stressed dog in hospital and must also be considered as below. Trace MR and TR are noted, which are unlikely to be heard on exam. Follow up is recommended to screen for development of progressive valve disease. No additional issues are identified.

As mentioned, the reported blood pressure is elevated which must be evaluated in light of patient stress level. If thought to be accurate/pathologic, vasodilator therapy is certainly warranted pending results of baseline lab work. If there is any question, reassess the BP as a sole reason for visit to determine a consistent baseline. Screening for underlying causes of SHT is recommended, such as Cushing's disease or renal insufficiency.

No cardiac medications are indicated and Pimobendan can be discontinued. Consider discontinue ACE-I as well until labs and BP are further assessed.

No cardiac contraindication for general anesthesia.

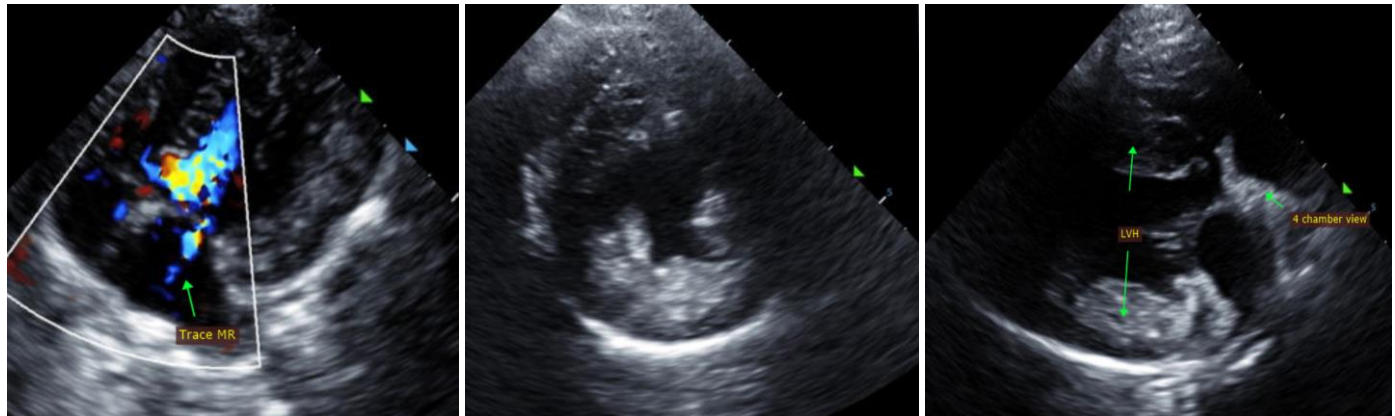
Monitor for any development of cough, labored breathing or exercise intolerance.

PLAN

Discontinue 2 medications as discussed. Baseline lab work and reassess BP as discussed. If no fluid abnormalities are noted and the BP is persistently elevated, consider Amlodpine, screening, etc.

Recommend recheck echocardiogram in 1 year to screen for progression or 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
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com