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Clinical Sonography & Telecytology
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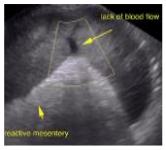
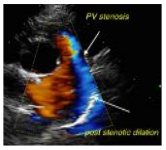
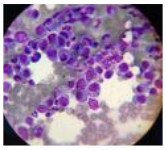
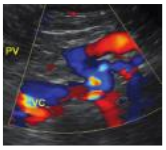

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Lilly Helpard-Chase

SPECIES
Canine

BREED
Australian Terrier

SEX
Female Spayed

AGE
7 years

WEIGHT
8.8kgs

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

IMAGING PERFORMED BY
Nigel Gumley, DVM

HOSPITAL NAME
Cedarview Animal Hospital

REFERRING VET
Dr. Gumley

INVOICE
29044

DATE
2/16/23

PRESENTING CLINICAL SIGNS

History: Systolic heart murmur first auscultated in Feb 2022. Today the systolic murmur appears to radiate, is loud on L and R sides, and has a click in early systole with a grade 4/6 intensity. Lungs clear, pulses normal. No ascites, no jugular pulse, MM pink. No symptoms associated with heart disease. BP: 125mmHg.
-Abnormal PE/Chem/CBC/UA Results: Mild increase in ALT (149) and moderate increase ALP = 472, normal CBC.
-ECG: ECG noted increased R wave amplitude and tall P waves. VHS calculated at 11.5.

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

Mild cardiomegaly. No obvious evidence of CHF.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The anterior MV leaflet appears thickened with abnormal motion. Trace mitral regurgitation with a normal left atrial dimension. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trace tricuspid regurgitation. 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. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic and trace pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

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	NM	NM	1.2	48	81	0.23
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	78	1.5	1.1	8.8	1.7	2.4	1.2
*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)
				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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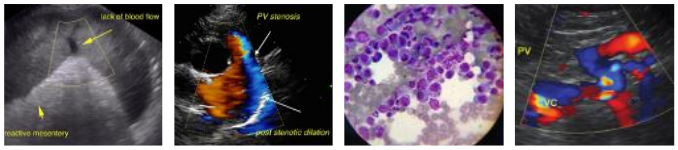

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overtly normal cardiac structure and function with no obvious cause of a murmur identified. The MV does appear to have evidence of early degeneration with a trace regurgitation seen; however, this is unlikely to be heard on exam. Follow up is recommended. No significant valvular insufficiencies were noted and no structural issues identified. In the absence of significant volume changes (dehydration) or anemia, other possibilities include a physiologic flow murmur only present with elevated heart rates (suspected in this case), or a small flow abnormality not seen here. It is reasonable to monitor periodically via recheck echocardiography in the future, particularly should the murmur persist/progress.

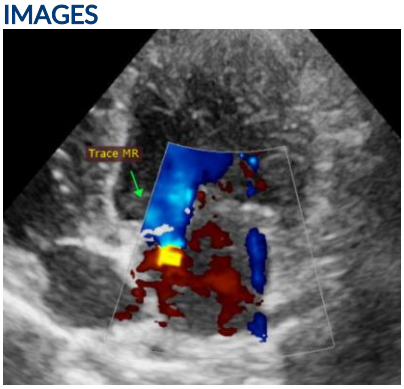
It is somewhat unusual to have a relatively loud radiating murmur on exam without an obvious cause on echo. Additionally the ECG and CXR findings would suggest mild cardiomegaly which again is not appreciated in this study. Reassessment is certainly recommendd in this case to ensure no abnormalities were missed.

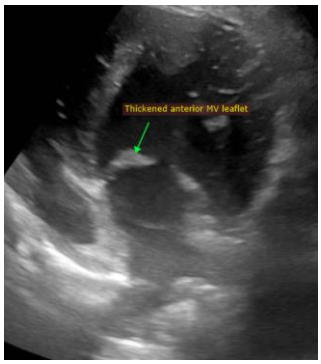
No cardiac medications are indicated at this time. Monitor for any development of cough, labored breathing or exercise intolerance.

No cardiac contraindication for general anesthesia.

Recommend recheck echocardiogram in 12 months to reassess murmur origin and screen for any progressive changes.

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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