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VETERINARY ULTRASOUND SERVICES
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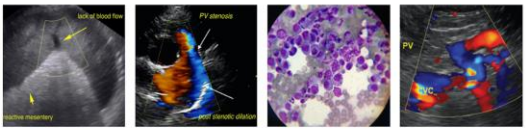

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Teddy Wanner

SPECIES
Canine

BREED
Cocker Spaniel Mix

SEX
Male Neutered

AGE
13 years

WEIGHT
26lbs

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

IMAGING PERFORMED BY
Rebekah Jakum, CVT ARDMS/RVT

HOSPITAL NAME
Blue Ridge VC

REFERRING VET
Dr. Filchner

INVOICE
31494

DATE
6/22/23

PRESENTING CLINICAL SIGNS

History: Stray found last month. Intermittent heart murmur ausculted. Bradycardia on exam: HR: 90bpm. Assess prior to anesthesia. Sedated with Torb.
-Current medication: Galliprant, Gabapentin.

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. Normal LV diameter with adequate myocardial function. 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. No aortic and trace 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	4.8	NM	NM	<1.3	39	71	0.18
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	60	2.3	1.1	11.8	NM	3.2	2.0
*Normal chamber parameters expressed as a mean value				3	1.27	2.46	1.36
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40	2.74	1.60
**Note: All measurements based upon multi-modal images and methods. An average value is reported.*				10	1.50	3.27	2.06
				15	1.83	3.71	2.43
				20	2.02	4.14	2.80
				25	2.18	4.48	3.10
				30	2.33	4.83	3.39
				35	2.48	5.17	3.69
				40	2.62	5.48	3.96
				50	2.88	6.07	4.46

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. Trace MR and TR may reflect early valve disease; however, what is seen here is unlikely to be heard on exam. No other significant valvular insufficiencies were noted, and no structural issues identified. Bradycardia is noted in the history and persists throughout the study; however, the patient was sedated. If this is a persistent finding, an ECG +/- atropine challenge are recommended prior to anesthesia.

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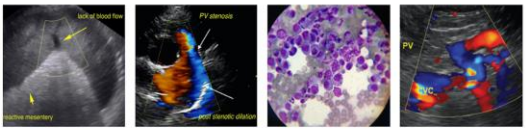

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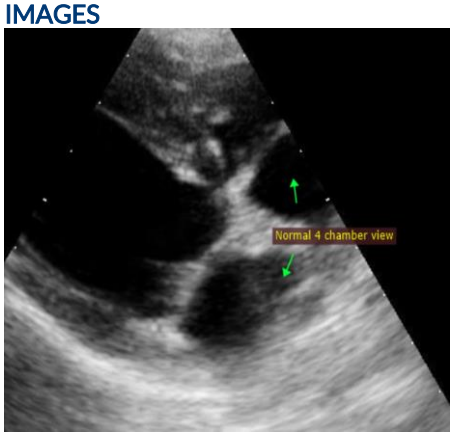
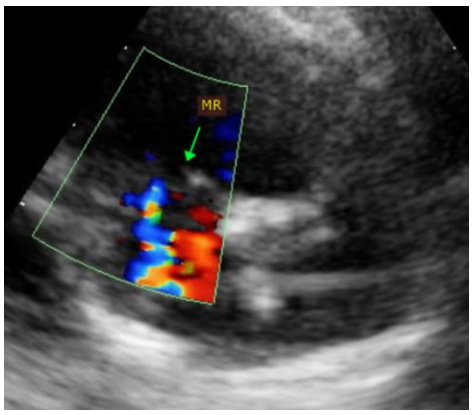
Pending further heart rate evaluation, there is no cardiac contraindication for general anesthesia.

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

Recommend recheck echocardiogram in 12-18 months to screen for 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. 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