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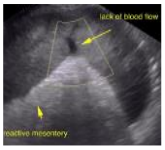
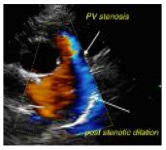
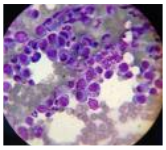
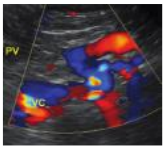
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT
Booker Waverly Pup House

SPECIES
Canine

BREED
Mix

SEX
Male

AGE
1 year

WEIGHT
11.6lbs

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

IMAGING PERFORMED BY
Lindsey Daniel, DVM

HOSPITAL NAME
Moores Mill Animal Hospital

REFERRING VET
Dr. Lamb

INVOICE
27112

DATE
10/25/22

PRESENTING CLINICAL SIGNS

History: Recheck echo. Assess prior to anesthesia.
-Pertinent previous echo findings (5/2022 MML): Suspect DCRV. Moderate RAE, mild RVE with mild RVH. TR: 5.0m/s.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Normal MV with no prolapse into the left atrial lumen. No obvious mitral regurgitation with no left atrial dilation. Normal LV diameter with adequate systolic function. The tricuspid valve appears largely normal, however there is mild tricuspid regurgitation. Moderate right atrial and mild ventricular dilation; mild RV hypertrophy. There is a muscular ridge of tissue located within the mid-RV lumen. This is suspected to be causing a significant obstruction to flow, seen on color imaging and resulting in an increase PV max. The pulmonic and aortic valves are largely normal, although difficult to visualize. No obvious pulmonic stenosis. Mild to moderate PI. Normal aortic outflow velocities. Laminar flow. No AI. No continuous flow identified in the distal PA. No pericardial or pleural effusion noted. No cardiac tumors observed.

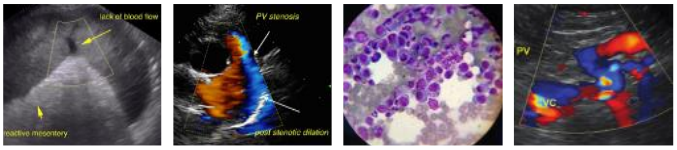
CARDIAC CHART

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	NM	1.4	1.3	50	84	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	125	0.9	>5.0	5.3	1.6	1.8	0.9
*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

Compared to the prior study, findings appear similar. There is no obvious improvement or progression in right heart enlargement with overall stability. Flow through the abnormal region is similar and no additional issues are identified.

Given these findings, Atenolol remains recommended although not listed in the history. No obvious indication for additional medications at this time.



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Due to the highly uncommon nature of this finding, prognosis is guarded. This patient's condition will likely limit lifespan, with many severe stenosis cases developing CHF by mid-life. That being said, outcome is highly variable. Monitor for development of associated clinical signs (collapse, abdominal distention, cough, labored breathing). Patient will always be at risk for progression to right-sided CHF (ascites, pleural effusion), development of exertional dyspnea/syncope, and/or malignant arrhythmias/sudden death lifelong.

Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.

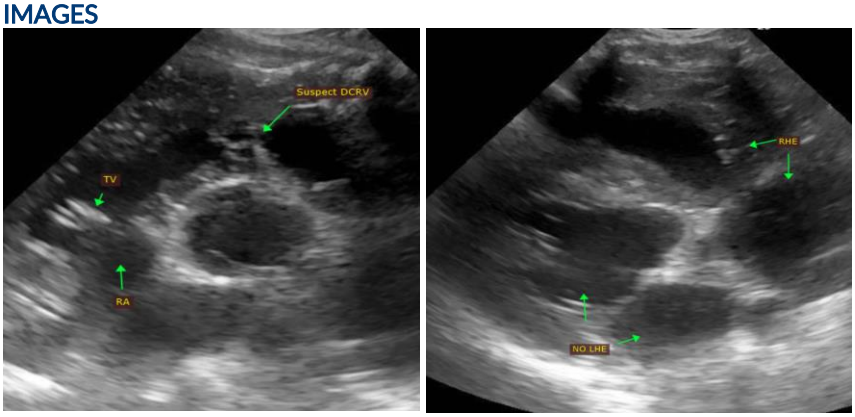
Anesthetic risk is mild to moderate at this time. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless absolutely necessary. Avoid vasodilators such as acepromazine. Mild IV fluid restriction is advised.

PLAN

Consider referral and Atenolol as previously recommended.

Recommend a recheck echocardiogram annually, sooner if any clinical signs arise.

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