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Clinical Sonography & Telecytology
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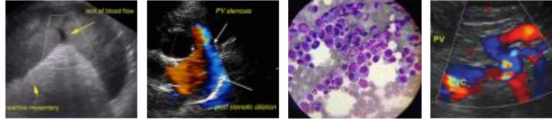

ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
Rex Waguespack

SPECIES
Canine

BREED
Retriever Mix

SEX
Male Neutered

AGE
6 years

WEIGHT
86lbs

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

IMAGING PERFORMED BY
Jenna Walsh, CVT

HOSPITAL NAME
Cascade Animal Clinic

REFERRING VET
Dr. Rosen

INVOICE
23739

DATE
4/18/22

PRESENTING CLINICAL SIGNS

History: Grade 3/6 heart murmur. Overweight.
-Current medications: Pimobendan 10mg 1 tablet BID.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 50mm/s, 20mm/mV. The average heart rate is 70bpm (range 38-150bpm). P waves cannot be visualized; however, a sinus origin is suspected. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Suspect profound respiratory sinus arrythmia; sinus node dysfunction or other pathologic bradycardia cannot be ruled out.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mildly thickening of mitral valve leaflets with minimal prolapse into the left atrial lumen. Moderate mitral regurgitation with moderate left atrial dilation. Normal MR velocity. Mild LV dilation with adequate myocardial function. The tricuspid valve appears mildly thickened with mild to moderate tricuspid regurgitation. Normal velocity. Mild right heart enlargement. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No obvious pulmonic or aortic 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	5.0	2.3	NM	188	32	60	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	NM	1.8	0.8	39.0	4.1	4.8	3.2
*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 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				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
				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)

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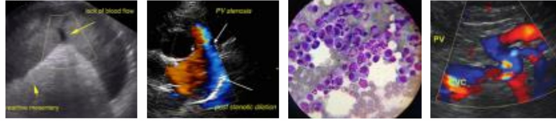

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing moderate mitral and mild tricuspid regurgitation. Moderate left atrial enlargement indicates relatively low risk for imminent complication; however, risk for progression in the future is high. Mild TR is noted with mild right heart enlargement. No additional issues are identified.

The ECG shows a profound bradycardia. A respiratory sinus arrhythmia (RSA) is possible, however correlation with respiratory phase should be confirmed (i.e., increased rate with inspiration and decrease with expiration is diagnostic for a sinus arrhythmia) as sinus node dysfunction is also a high possibility. Other maglinant issues such as AV block cannot be ruled out, as P waves are unable to be visualized. High vagal tone can be a normal variant or be secondary to a variety of systemic issues such as neurologic or respiratory disease. Further evaluation via an atropine challenge Is recommended. Administer 0.04mg/kg atropine IV or IM and assess response, pending a normal response high vagal tone is suspected which is a benign cause. An abnormal response would indicate a pathologic arrythmia, and a holter monitor and/or referral should be considered.

With moderate left atrial enlargement, it is reasonable to continue Pimobendan going forward. No additional medications are indicated at this time.

Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

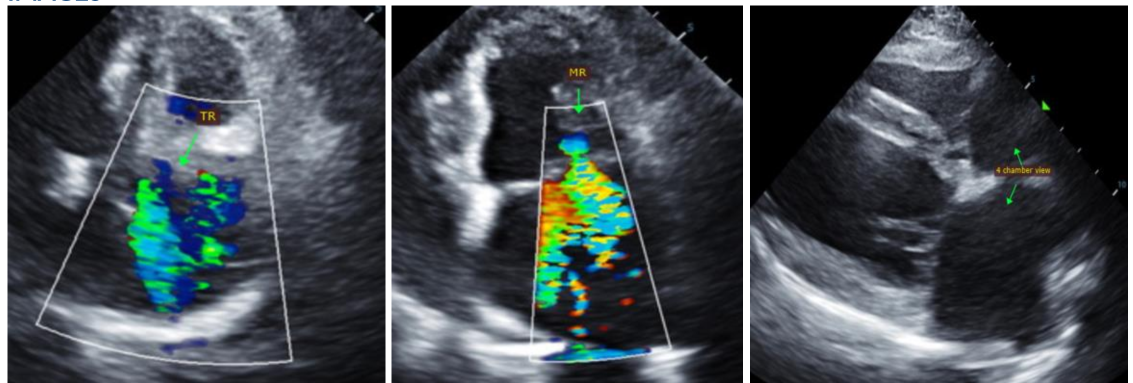
Anesthesia is not advised prior to further evaluation of bradycardia.

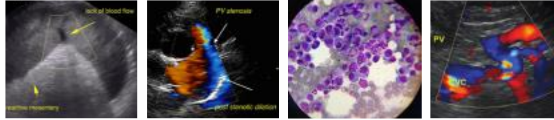
PLAN

Institute Pimobendan 0.3mg/kg PO q12h. Atropine Challenge as discussed with further evaluation pending results.

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs

IMAGES





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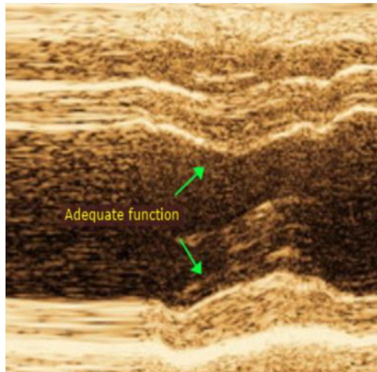

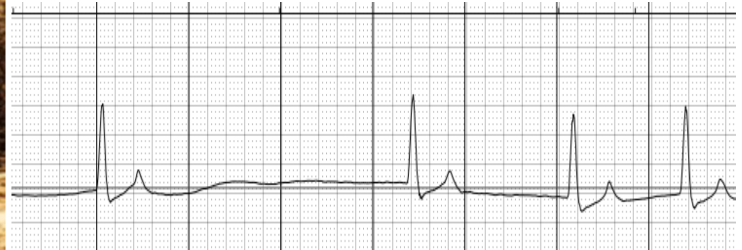

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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