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Clinical Sonography & Telecytology
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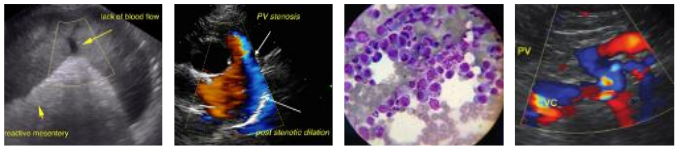

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Willow Bower

SPECIES
Canine

BREED
Collie Mix

SEX
Female Spayed

AGE
5 years

WEIGHT
37lbs

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

IMAGING PERFORMED BY
Amanda Crook, SDEP

HOSPITAL NAME
Rivers Edge Pet Medical Center

REFERRING VET
Dr. Gibson

INVOICE
31992

DATE
7/28/23

PRESENTING CLINICAL SIGNS

History: Ventricular arrhythmia noted during dental; still present upon re-check last week.
BP 110, 112, 110mmHg.
-Abnormal PE/Chem/CBC/UA Results: Electrolytes- WNL, previous lab work 5/13 WNL.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 5mm/mV. The average heart rate is 130bpm (range 115-150bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. A single VPC is noted, No APCs, pauses or other dysrhythmias observed.
ECG diagnosis: Respiratory sinus arrythmia with a single VPC.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve appears normal in form and function, with no obvious prolapse into the left atrial lumen. Trace MR. Normal MR velocity. Normal left atrial dimension. Mild LV dilation in both systole and diastole (LVIDdN: 1.79, LVIDsN: 1.23) with borderline systolic function. Mildly increased LV sphericity. Normal LV wall thickness. The tricuspid valve appears normal in form and function. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension or right heart decompensation. No TR. The aortic valve is normal in morphology and mobility. No subvalvular ridge present; normal LVOT velocity. No aortic insufficiency. Normal pulmonic valve with no pulmonic insufficiency seen. Normal velocity. No pericardial or pleural effusion noted. No obvious cardiac tumors.

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	NA	NM	1.3	27	50	0.4
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	1.6	1.3	16.8	1.9	4.1	3.0
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
				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)

BODY WEIGHT DEPENDENT PARAMETERS

**Note: All measurements based upon multi-modal images and methods. An average value is reported.*

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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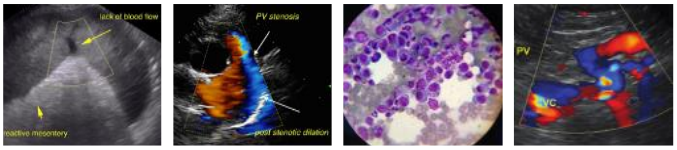

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Mild LV abnormalities are identified in this study. The LV is mildly dilated in both systole and diastole with borderline systolic function. Trace MR is present and is clinically insignificant. The LA is normal, indicating a low risk for clinical complications at this time. No additional issues are identified. These findings may be concerning for early DCM in this patient; however, a normal variant is also possible. Concurrent rare VPCs may also be suggestive of underling issue. Other possible contributing causes should be considered such as diet and/or thyroid status. Avoid BEG (ie non-traditional) options in this patient lifelong.

The ECG is largely normal with a single VPC identified. In light of the echo findings, this may be concerning and should certainly be monitored going forward. In an asymptomatic otherwise healthy dog with 1 VPC, a holter monitor is not necessary at this time; however, close monitoring for syncope or acute lethargy is advised. Reassessing the ECG in 6 months is recommended.

Based on today's findings, cardiac supportive medications are not clearly indicated. Close follow-up is advised however, as any progression in left heart dimensions will certainly warrant Pimobendan therapy.

Monitor for development of a murmur, cough, labored breathing, exercise intolerance or collapse episodes.

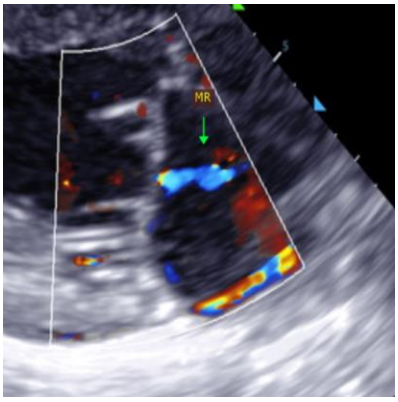
Prognosis is guarded going forward until progression is assessed.

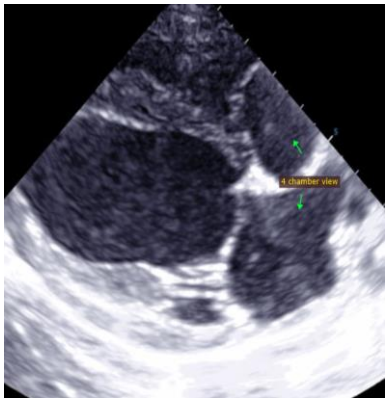
PLAN

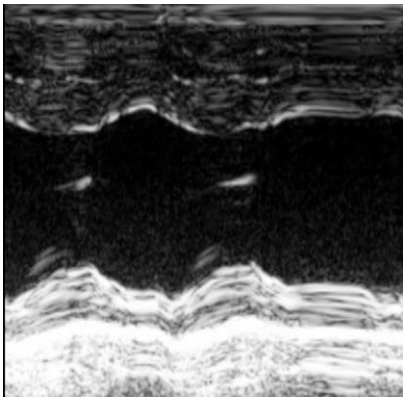
Baseline BP recommended. A holter monitor may be considered should any symptoms arise in the future. Consider patient diet history, thyroid status as discussed.

A recheck echocardiogram and ECG are recommended in 6 months to screen for any progressive changes. If unchanged, annual monitoring is likely reasonable.

IMAGES







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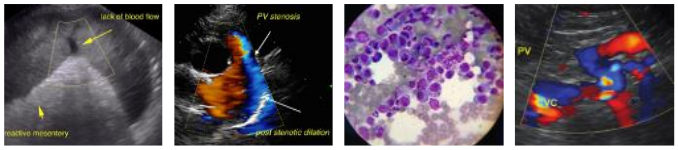

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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