



PATIENT

Lizzy Miller

SPECIES

Canine

BREED

Doberman Pinscher

SEX

Female Spayed

AGE

9.4 years

WEIGHT

65lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Loetitia Saint-Jacques,
LVT

HOSPITAL NAME

Four Paws AC

REFERRING VET

Dr. Lester

INVOICE

47496

DATE

4/9/26

PRESENTING CLINICAL SIGNS

History: PE 3.19.26 with pronounced 3rd heart sound (S3 gallop) but fairly regular. Suspect cardiomyopathy. Today (4.8.26): profound arrhythmia, runs of tachycardia. No gallop heard today. Asymptomatic. BP: 4.8.26: L rear; Size 5 (R lateral recumbency) 129/71 (90) 122/73 (89) 117/79 (103) 130/56 (80) L front; Size 4 (R lateral recumbency) 109/96 (100) 131/86 (101) 143/114 (123) 144/181 (102) AVERAGE BP: 128/93 (98). Labs: WNL.
-Brief holter results: frequent ventricular and supraventricular premature beats.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 10mm/mV. The average heart rate is 80bpm. 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 is inverted. The MEA is shifted left. Frequent APCs throughout with brief runs of SVT. Rare VPCs. No pauses or other dysrhythmias observed. ECG diagnosis: Respiratory sinus arrhythmia with supraventricular arrhythmias and rare VPCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Mild central mitral regurgitation with slight left atrial dilation. Normal MR velocity. The LV is mildly dilated in both systole and diastole (LVIDdN: 1.84, LVIDsN: 1.30) with mildly depressed myocardial function. The tricuspid valve appears normal with trace tricuspid regurgitation. Normal velocity. 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 or 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	5.2	2.6	NM	1.4	24	40	0.9
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	1.7		29.5	3.5	5.0	3.8
*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)



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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	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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing mild mitral and trace tricuspid regurgitation. Lack of significant left atrial enlargement indicates the current risk for complication is low. The LV is mildly dilated with mild dysfunction, which may reflect early DCM phenotype. That being said, this can also develop secondary to arrhythmias or valve disease in a large breed dog. Monitoring is advised. No additional structural issues are seen.

Unexpected, the ECG primarily shows frequent APCs are present with rare VPCs. This is supported by the included holter monitor, although a complete evaluation is not performed. APCs in this case are more frequent and significant than mild structural disease would explain, and **full systemic workup is recommended**. Due to the frequency of the arrhythmia, Diltiazem is recommended as below with close monitoring at home for any associated clinical signs. This would include acute collapse or lethargy. This breed is certainly at risk for sudden death, which should be expressed to the owner.

Given the totality of the findings, Pimobendan is also recommended in this case. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage. 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.

PLAN

Institute Diltiazem 1-2mg/kg PO q12h. Pimobendan is also recommended in this case; 0.3mg/kg PO q12h. Consider a full holter monitor evaluation with reassessment once Diltiazem is onboard.

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

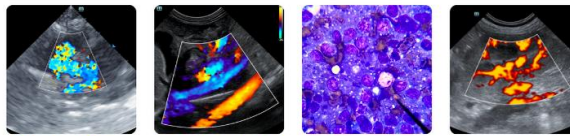
IMAGES



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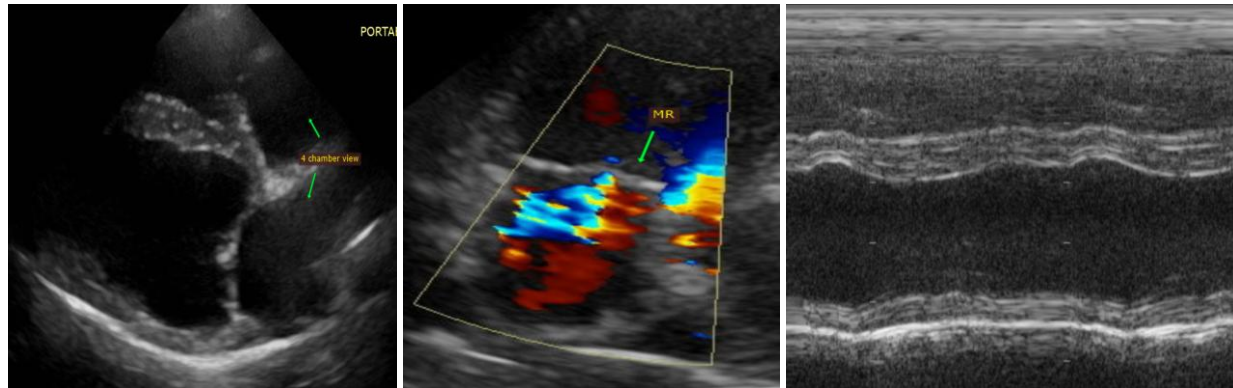
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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