


**PATIENT**

Mercy Dhaliwal

**PRESENTING CLINICAL SIGNS**

History: Highly anxious patient. Had sedated for lump removal (large lump on side of neck) with Hydromorphone, followed by Ketamine/Valium and Mercy started showing VPCs. Gave Atropine 0.3ml and woke up, postponed surgery. No medications.

**SPECIES**

Canine

**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; 25mm/s, 20mm/mV. The average heart rate is 70bpm (range 60-83bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed.

**BREED**

Doberman

ECG diagnosis: Normal sinus rhythm with respiratory variation.

**SEX**

Female Spayed

**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 central mitral regurgitation is identified. Normal left atrial dimension. Normal LV diameter with adequate myocardial function. The tricuspid valve appears subjectively normal, with no tricuspid regurgitation. 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 with a normal LVOT velocity. Normal pulmonic outflow velocities. No aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors observed.

**AGE**

8 years

**WEIGHT**

67lbs

**INTERPRETED BY**

 Maggie Machen Lamy,  
 DVM DACVIM  
 (Cardiology)

**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	NM		1.2	1.2	39	76	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	100	1.2	1.3	30.4	2.7	4.6	2.8
*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)
				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)

**INVOICE**

25321

**DATE**

7/14/22

**IMAGING PERFORMED BY**

Crystal Hill, RVT

**HOSPITAL NAME**

Millen Road Animal Hospital

**REFERRING VET**

Dr. Sandhu



**PATIENT**

Mercy Dhaliwal

**SPECIES**

Canine

**BREED**

Doberman

**SEX**

Female Spayed

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Overtly normal cardiac dimensions and function. No significant valve leaks are appreciated, and the systolic function is intact. The left heart is normal in dimension and no additional issues are identified. The ECG is unremarkable with a normal sinus rhythm.

These findings do not explain VPCs during anesthesia. The first important delineation is VPCs versus escape beats, as these can appear similar and the latter commonly develops with bradycardia. Regardless, no arrhythmias are seen here. If there is any concern, a holter should be considered.

Recheck echocardiograms every 6-12 months is indicated in this predisposed breed. Additionally, holter monitoring every 6-12 months can and should also be considered to screen for the arrhythmic form of disease. Finally, the BNP test has also been shown to be a decent predictor of occult DCM and can consider routine screening going forward.

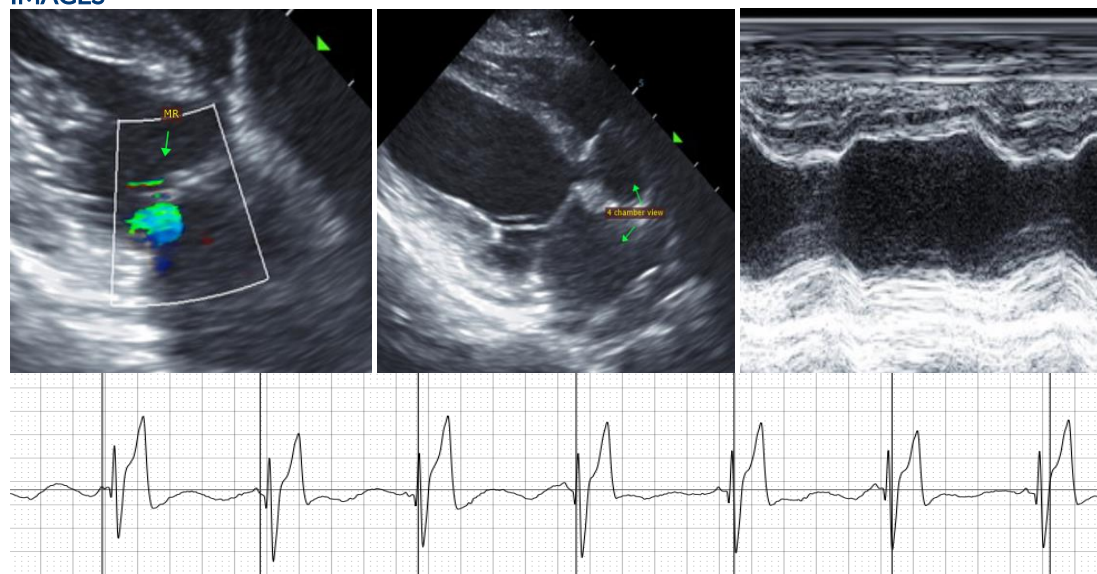
No cardiac medications are indicated at this time. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes. I generally recommend fish oil supplementation in any Doberman, given the anti-arrhythmic properties of omega fatty acids.

No cardiac contraindication for general anesthesia.

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

Recommend recheck echocardiogram every 6-12 months as a screening tool, sooner if clinical signs arise.

**IMAGES**





### PATIENT

Mercy Dhaliwal

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.

### SPECIES

Canine

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.

### BREED

Doberman

Maggie Machen Lamy, DVM  
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)  
info@sonopath.com

### SEX

Female Spayed

### AGE

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### WEIGHT

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