


PATIENT

Romulus Harrison

PRESENTING CLINICAL SIGNS

 History: Cardiac arrhythmia noted as incidental finding at annual exam.
 -Current medications: Gabapentin, tramadol, onsiar as needed for pain.
 -Abnormal PE/Chem/CBC/UA Results: CBC WNL, BUN 12.9, all else WNL.

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; 50mm/s, 20mm/mV. The average heart rate is 200bpm with an irregular rhythm (range 166-230bpm). P waves cannot be identified throughout; however, intermittently a sawtooth appearance is appreciated (rule out atrial fibrillation versus atrial flutter). No ventricular arrhythmias observed.
 ECG diagnosis: Suspect rapid atrial fibrillation versus atrial flutter.

BREED

Burnese Moutain Dog

SEX

Male Neutered

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. Trivial mitral regurgitation with no left atrial dilation. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trivial tricuspid regurgitation. 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.

AGE

8 years

WEIGHT

99lbs

CARDIAC CHART
INTERPRETED BY

 Maggie Machen Lamy,
 DVM DACVIM
 (Cardiology)

IMAGING PERFORMED BY

Kelly Reschny, RVT

HOSPITAL NAME

 New Hamburg
 Veterinary Clinic

REFERRING VET

NP

INVOICE

24373

DATE

5/24/22

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	NA	1.1	1.2	27	54	0.33
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	212	0.98	0.81	45.0	2.8	3.2	2.3
*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)

 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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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overtly normal cardiac structure and function. Small leaks are noted in the mitral and tricuspid valves and follow up is advised should a murmur be ausculted in the future. Cardiac function appears normal, and no significant pathology is seen.

As a more significant issue, the patient has a significant arrhythmia. A limitation of a single-lead ECG is P wave identification can be difficult, which is unfortunately the case in this patient. What is seen here is certainly an irregular supraventricular rhythm with dramatic rate variation and an overall tachycardia. P waves cannot be visualized; however, a sawtooth appearance may suggest atrial flutter. Regardless, what is seen here is concerning and certainly warrants therapy. Ideally, **consider immediate referral in this case** for a six-lead tracing with a local Cardiologist or an emergency facility. If declined or unable, err on the side of caution with institution of Sotalol and assess response. Any patient with rapid arrhythmias is at risk for collapse or sudden death and this should be expressed to the owner. This risk unfortunately persists even with medical management. Full systemic evaluation is advised to screen for underlying issues given the unusual nature of this case.

Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes in the future. Patient will remain at risk for both right and left-sided congestion lifelong. Omega fatty acid supplementation (1000mg once to twice daily) and mild salt restriction may be of some long-term benefit.

No cardiac medications are indicated at this time. Monitor for any development of cough, labored breathing or exercise intolerance.

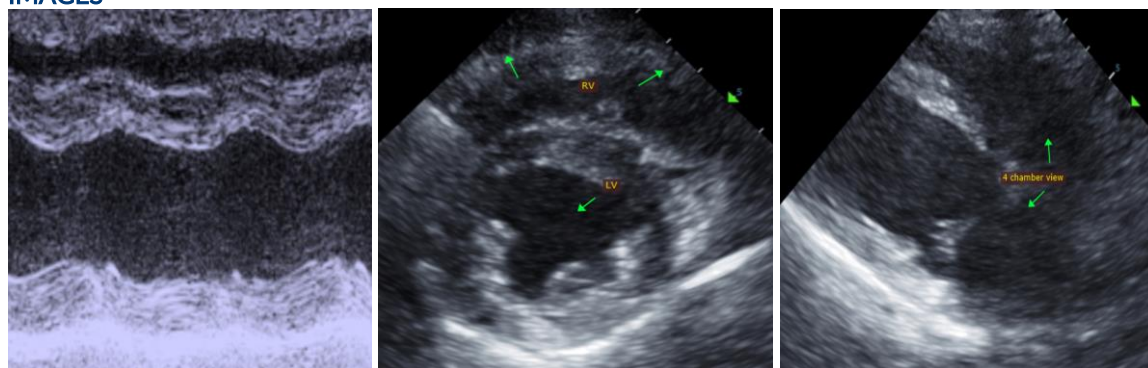
Anesthesia is not advised at this time.

PLAN

Consider referral for a six-lead ECG. If declined, institute Sotalol 1-2mg/kg PO q12h. Recheck ECG in 5-7 days and assess response. If the arrhythmia is resistant to therapy, referral must be done, and no further medial recommendations can be made. Full systemic evaluation is advised.

Recheck echocardiogram and/or holter monitor/ECG in 6 months, once the rhythm is stabilized.

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.

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