



PATIENT

Cole Orlik

SPECIES

Canine

BREED

Labrador

SEX

FS

AGE

9 years

WEIGHT

75lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Fred Gromalak, DVM

HOSPITAL NAME

SVS Imaging

REFERRING VET

Dr. Gromalak

INVOICE

22706

DATE

2/21/22

PRESENTING CLINICAL SIGNS

History: Presented for weakness in the backend, and owner noticed fast heart rate. Hx of GF diet. Abnormal PE/Chem/CBC/UA Results: Tachycardia then normalized heart rate. Abdominal CXR nsf. E/D normally. No recent lab work.

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, 10mm/mV. The average heart rate is 125 bpm (range 100-166bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. A single premature beat is identified; suspect atrial origin. No pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm. Single premature beat; suspect APC.

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. No left atrial dilation. Normal LV diameter with borderline myocardial function. The tricuspid valve appears normal with trace 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.

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	NA	NA	1.3	1.3	26	53	0.5
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	110-210	1.0	1.3	34	3.9	4.75	3.5
*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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				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 dimensions and function. The LV is normal in dimension; however, the systolic function is borderline depressed. Highly recommend changing to a traditional diet in this case. No Lack of significant left atrial enlargement indicates the current risk for complication is low. No significant valve leaks are identified, nor concurrent issues such as pulmonary hypertension suspected.

The ECG is largely unremarkable with a normal sinus rhythm. A single premature beat (suspect APC) is identified which is of unknown significance. If the patient is truly having paroxysmal tachycardia not captured here, this premature beat may suggest an SVT rather than a VT. Further monitoring and evaluation is indicated, as this should be confirmed through an extended ECG tracing or potentially a holter monitor. This is advised if no sustained arrhythmias are captured and suspicion persists.

What is seen here (arrhythmia aside) does not explain the reported clinical signs. Consider full systemic evaluation such as senior lab work, AUS, etc as dictated by the clinical picture.

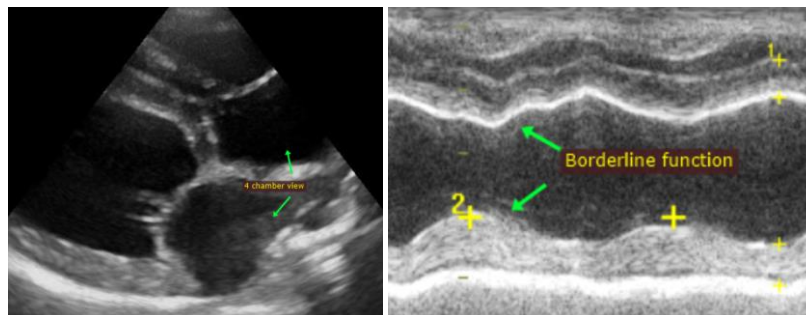
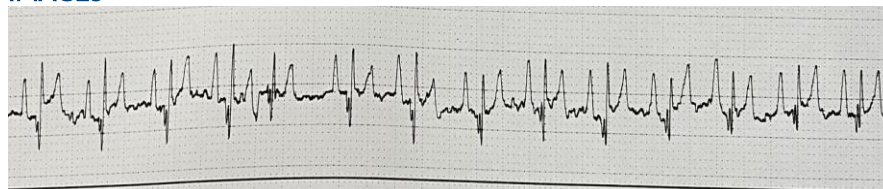
In a dog with no significant left atrial enlargement, no cardiac medications are clearly indicated. Omega fatty acid supplementation is recommended in any arrhythmic patient. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

Anesthesia is not advised prior to further arrhythmia evaluation.

Plan: consider further ECG screening vs application of a holter monitor. Consider full systemic evaluation. Diet change as discussed.

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

IMAGES



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.



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Thank you for this referral. 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