



PATIENT

Tot Moreno

PRESENTING CLINICAL SIGNS

History: Ausculted a new cardiac arrhythmia on 9/19/2022. No coughing or sneezing. History of UTI's and vaginitis. Treated with clavamox. History of MCT removed on head. Elevated ProBNP.

SPECIES

Canine

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.
Normal cardiac silhouette. No obvious evidence of CHF.

BREED

Boxer

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 120bpm (range 66-150bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. Isolated APCs are seen throughout; singles only. No ventricular premature beats, pauses or other dysrhythmias observed.

SEX

Female Spayed

ECG diagnosis: Normal sinus rhythm with isolated APCs.

AGE

12 years

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no prolapse into the left atrial lumen. No obvious mitral regurgitation with a normal left atrial dimension. The LV dimension is slightly decreased for this body size. The tricuspid valve appears normal with no 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.

WEIGHT

59lbs

CARDIAC CHART

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

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	44	80	0.3
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	130	1.6	1.1	26.8	2.7	3.6	2.0
*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

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr. Binor

INVOICE

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DATE

10/26/22

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overtly normal cardiac dimensions and function, with no obvious dysfunction or dilation of the left heart. No significant valvular leaks are visualized, and no evidence of pulmonary hypertension. There are potential markers of volume depletion and baseline lab work/blood pressure is strongly recommended.

The ECG does confirm an arrhythmia, with atrial premature contractions (APCs). APCs are generated from abnormal conductive or fibrotic tissue in the atria of the heart muscle, and even frequent single APCs will often cause no clinical signs in dogs. When sustained however, supraventricular tachycardia can lead to symptoms such as lethargy and collapse.

APCs are a very non-specific finding. They can be primary in origin (arrhythmic disease), or develop secondary to significant cardiac disease (not present in this study) or be extra-cardiac in origin; i.e., due to pain, stress, inflammation, cancer, metabolic disease, etc. Consider ruling out any systemic issues through routine lab work and potentially an abdominal ultrasound.

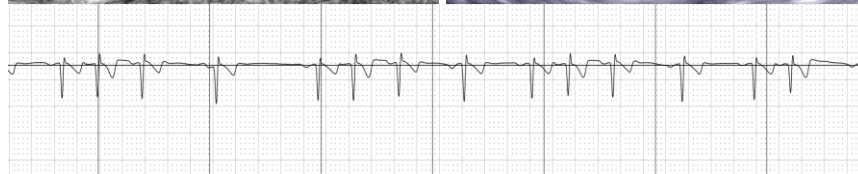
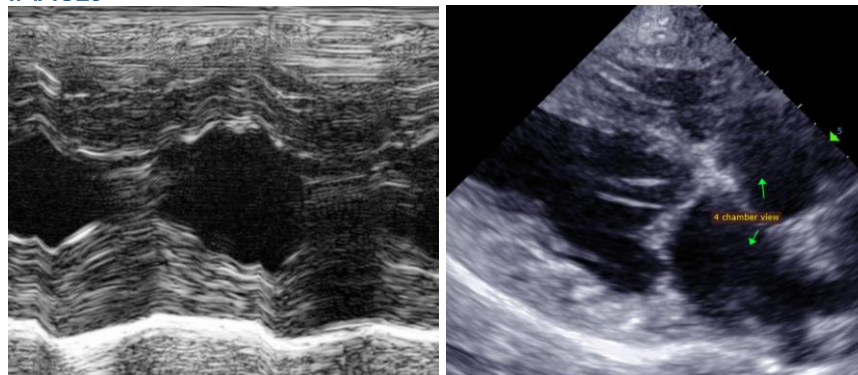
Given what is seen here, no treatment is indicated. That being said, a holter monitor would be the safest approach to fully understand the extent of the arrhythmia outside of the hospital. An alternative approach would be to simply monitor at home for symptoms and utilize a holter monitor should the patient begin to experience clinical signs such as lethargy or collapse. Discussion with the owner is advised. No treatment is indicated based upon this baseline ECG.

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

PLAN

Baseline lab work and systemic screening is recommended.

A recheck echocardiogram is recommended in 1 year, sooner if clinical signs arise.

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.

SPECIES

Canine

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.

BREED

Boxer

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