



PATIENT

Sly Franke

PRESENTING CLINICAL SIGNS

History: Gallop rhythm heard on exam; HR around 200bpm. Owner noticed restless and felt fast heartbeat. On testosterone for urinary incontinence.

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, 10mm/mV. The underlying rhythm is sinus in origin with an average heart rate of 210bpm and a regular rhythm. Isolated VPCs are seen throughout. QRS morphology is positive and narrow complex.

BREED

Pointer Mix

ECG diagnosis: Supraventricular tachycardia; rule sinus versus atrial origin. Isolated VPCs.

SEX

Male Neutered

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Severe left ventricular dilation with diminished systolic function. Decreased LV wall thickness with increased sphericity. Severe left atrial enlargement. The mitral valve appears thickened with no obvious prolapse into the left atrial lumen. Moderate eccentric mitral and mild tricuspid regurgitation secondary to annular stretch. Mild right atrial and ventricular dilation. The aortic valve is normal in morphology and mobility. No subvalvular ridge present; normal LVOT velocity. No aortic insufficiency. Normal pulmonic valve with trace pulmonic insufficiency seen. No pericardial or pleural effusion noted. No obvious cardiac tumors.

AGE

12 years

WEIGHT

55lbs

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	4.5	NM	1.6	2.3	8	16	1.4
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	200	1.0	0.8	24.9	4.5	7.0	6.5
*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

IMAGING PERFORMED BY

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HOSPITAL NAME

SVS Imaging

REFERRING VET

Dr. Gromalak

INVOICE

26803

DATE

10/10/22



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Unfortunately, this patient has severe biventricular myocardial failure. This is causing dilation and overload of all four chambers resulting in insufficiency of the mitral and tricuspid valve. The degree of dilation and pump failure puts the patient at risk for congestive heart failure. No additional issues are identified.

Systolic failure can be primary in nature (DCM) or secondary to taurine deficiency, myocarditis, hypothyroidism, tachycardia-induced cardiomyopathy, or infiltrative disease such as lymphoma. A thorough diet history is recommended to screen for nontraditional options. A taurine level can be submitted; however, regardless of results a taurine supplement is recommended. Finally, a thorough medical history to assess for prior issues is recommended (such as parvovirus, hypothyroid disease, etc.). A cardiac troponin and thyroid level can be submitted to assess for ongoing damage to the myocardium as well.

Given the severity of the findings and progressive clinical signs, the diagnosis is congestive heart failure and **immediate institution of full cardiac support is recommended in this case.** Consider hospitalization for stabilization as the gold standard approach.

Prognosis is poor at this stage in the disease process, with an average survival time of 8-9mo for canine patients with active pulmonary edema on medications, however they generally are able to maintain a good quality of life for that period. Even with diet-related dysfunction, improvement will likely be minimal at this end-stage phase of disease.

Cases of systolic failure are at high risk for malignant tachyarrhythmias (such as AF or VT), and activity restriction is advised. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

The ECG shows an elevated heart rate with a supraventricular origin. This is difficult to differentiate between sinus tachycardia and a true SVT without a six-lead tracing, vagal maneuvers, etc. Additionally, isolated VPCs are seen, which are likely secondary to cardiac disease and stress. Recommend institute cardiac support and reassess the ECG in 5-7 days to determine if antiarrhythmic therapy is warranted.

Monitor for development of a cough, worsening labored breathing, exercise intolerance or collapse episodes in the future. Monitoring of sleeping breathing rates at home is recommended to assess response to medications and recurrence of CHF in the future.

PLAN:

Consider hospitalization for IV diuretic, oxygen support and supportive care until stable. If able, a six-lead ECG should be obtained at this time. Discharge on the following: administer Lasix 1-2mg/kg PO q12. Administer Pimobendan 0.3mg/kg Po q12. Administer Spironolactone 1-2mg/kg PO q12h. Institute Taurine 1000mg PO q12h. Diet history and thyroid status ASAP.

Recheck ECG in 5-7 days and recommend resubmission to determine if heart rate control is recommended.

Monitor renal panel, heart rate, and BP every 3-4 months lifelong. Once patient is deemed normotensive (blood pressure >130mmHg), institute ACE-I 0.5mg/kg PO q12h.



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Recheck echocardiogram and in 6 months to reassess cardiac function sooner if issues arise.

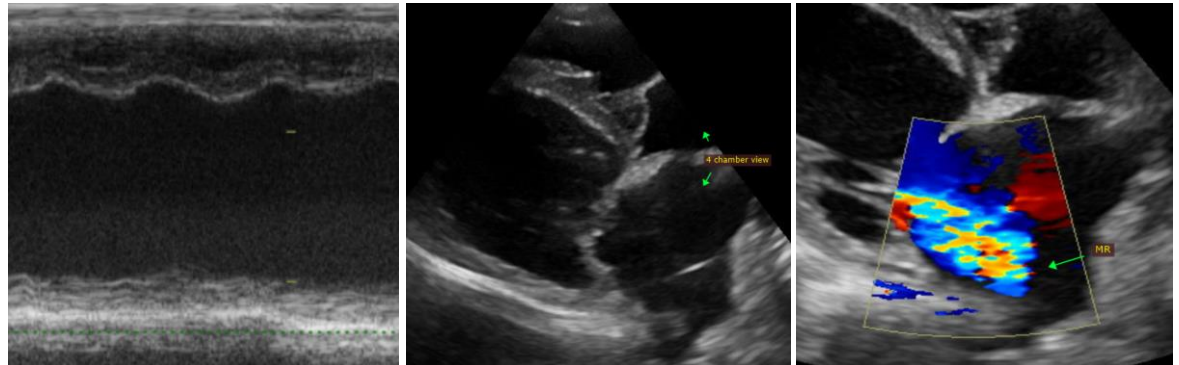
SPECIES

Canine

IMAGES

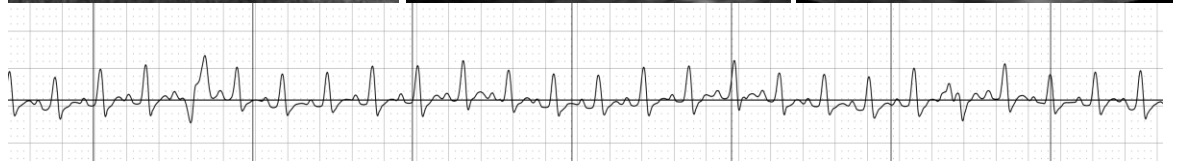
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Pointer Mix



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AGE

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WEIGHT

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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.

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

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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