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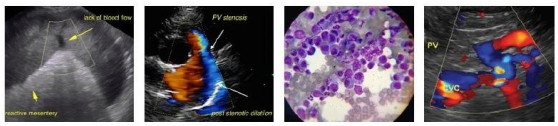


IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT
Tyson Geer

SPECIES
Canine

BREED
Corgi Mix

SEX
Male Neutered

AGE
12 years

WEIGHT
10lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Loetitia St-Jacques, LVT/RVT

HOSPITAL NAME
Donner Truckee Veterinary Hospital

REFERRING VET
Dr. Vannini

INVOICE
20560

DATE
8/16/21

PRESENTING CLINICAL SIGNS

History: Possible seizure with stiffness 3 days ago, lasted less than 1 minute. Lethargic since, diarrhea and vomiting yesterday and today. Grade 4 heart murmur.
-CXR: Showed moderate left-sided cardiomegaly. No CHF.
-Blood Pressure: 124mmHg.
-Abnormal PE/Chem/CBC/UA Results: ALT: 174, CHOL: 106.

ELECTROCARDIOGRAPHIC FINDINGS

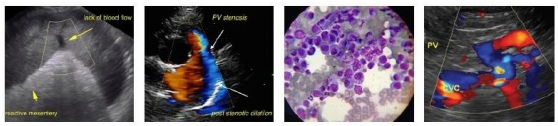
A six lead ECG is available at 50mm/s; 10mm/mV. The average heart rate is 130bpm (range 100-143bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with respiratory variation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with minimal prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with moderate left atrial dilation. No LV dilation with adequate myocardial function. The tricuspid valve appears thickened with marked septal prolapse and mild to moderate tricuspid regurgitation. Velocity consistent with early pulmonary hypertension. No significant right heart enlargement. 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	NM	3.0	NM	1.8	40	73	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	NM	1.9	1.1	4.5	2.3	2.6	1.6
*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 **Note: All measurements based upon multi-modal images and methods. An average value is reported.* Adapted from June Boon, Veterinary Echocardiography, 1998				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
				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)



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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	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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing moderate mitral and mild to moderate tricuspid regurgitation. Moderate left atrial enlargement indicates current relative stability with risk for progression to spontaneous congestive heart failure in the future. The tricuspid valve is significantly affected; however, the leak is relatively small and only early pulmonary hypertension is appreciated. No additional issues are noted at this time.

No definitive cardiac cause for the episode is seen in this study (i.e., no significant PAH, no obvious rupture or tears, reasonable cardiac output, etc.) and other causes should be considered. These possible causes include vasovagal events, intermittent arrhythmias, neurologic/systemic issues, etc. The length of the episode is atypical of syncope and may reflect extra-cardiac causes. Additionally, while the extended ECG did not show any arrhythmias an intermittent abnormality still cannot be ruled out without a Holter monitor, and this should be considered if episodes continue undiagnosed. Further systemic evaluation may also be considered (AUS pending). A baseline BP is highly recommended.

Given these findings, it is responsible to institute Pimobendan given the degree of disease and risk for progression.

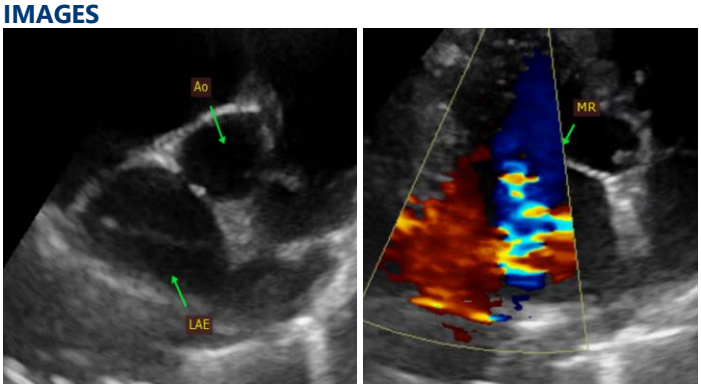
Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a progressive cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

Baseline BP. Institute Pimobendan 0.25-0.3mg/kg BID. Consider further evaluation as discussed.

Recommend monitor for progression with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

IMAGES



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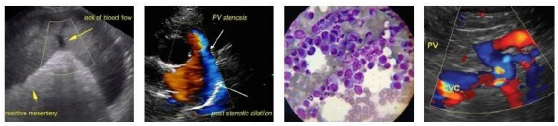

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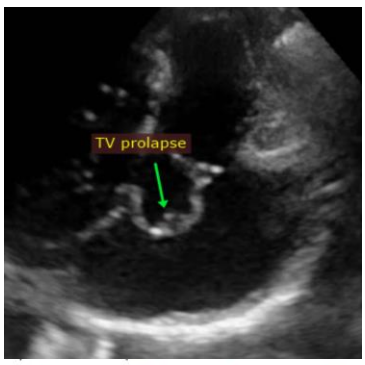

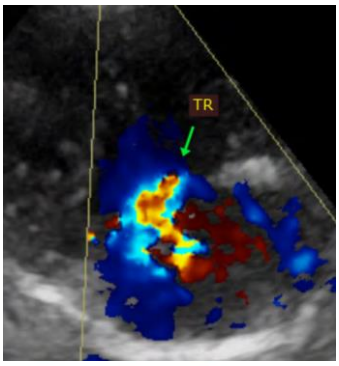

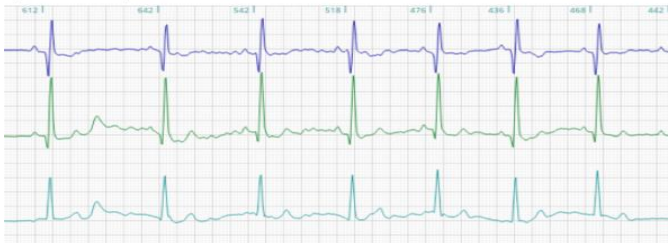

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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