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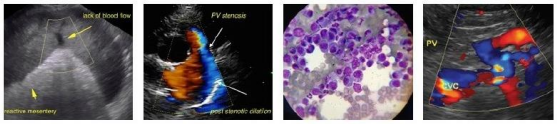

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT
Tyson Geer

SPECIES
Canine

BREED
Corgi Mix

SEX
Male Neutered

AGE
13 years

WEIGHT
10.8lbs

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. Anderle

INVOICE
23547

DATE
4/8/22

PRESENTING CLINICAL SIGNS

History: Recheck echo. History of 2 short seizure/syncopal episodes in the past 6 months. Stiffness with collapse, goes limp briefly. Grade 5/6 heart murmur. BP: 212mmHg.
-Current medications: Pimobendan 1.25mg PO q12h.
-Pertinent previous echo findings (8/2021 MML): Moderate MR, moderate LAE, no LVE, mild to moderate TR: 3.0m/s. LA: 3.6, LV: 3.6.

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. Borderline LV dilation with adequate myocardial function. The tricuspid valve appears thickened with marked septal prolapse and moderate tricuspid regurgitation. Velocity consistent with moderate 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. Trace aortic and 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	5.1	3.5	NM	1.8	48	82	0.2
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	1.5	0.9	4.9	2.56	2.7	1.4
*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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease persists with mild progression. The left heart disease is stable with moderate mitral regurgitation and largely unchanged left heart dimensions. The pulmonary hypertension has increased from mild to moderate without significant right heart enlargement. Finally, a small aortic leak is noted, and a baseline blood pressure is recommended. No additional issues are noted at this time.

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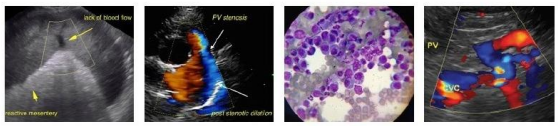

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Episodes were noted in the prior history as well and remain undiagnosed. While pulmonary hypertension can certainly cause syncope, it is unclear if these are related or not. Moderate PAH rarely causes clinical issues; however, if the episodes remain undiagnosed, can certainly institute a Sildenafil trial. That being said, given the infrequency of the episodes it will be difficult to assess response. Discussion with the owner is advised. Further assessment such as an ECG may be beneficial. Additionally, the reported BP is markedly elevated and should be reassessed for persistence given the clinical collapse episodes. Ideally obtain serial measurements in a controlled, low stress environment and continue until 3 consecutive readings plateau within 5mmHg of variability. If persistently >180mmHg despite a relatively calm demeanor, recommend institution of amlodipine to effect. Additionally if deemed accurate, screening for predisposing underlying causes of SHT is recommended (Cushings, PLN, adrenal tumor, etc), as primary disease is relatively uncommon and a rule out diagnosis.

Continue Pimobendan as previously recommended. No obvious need for additional medication.

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.

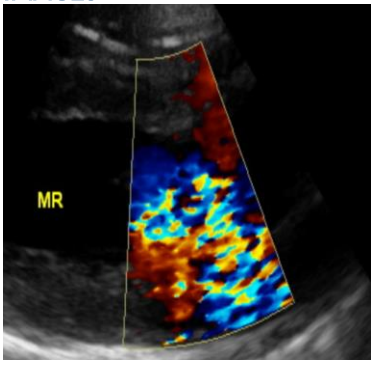
Anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

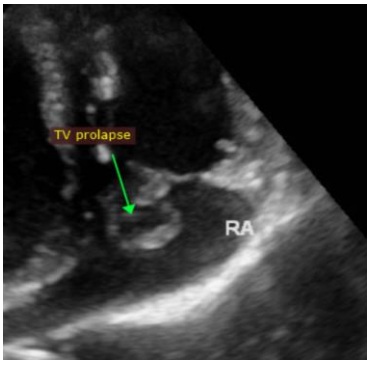
PLAN

Consider ECG, reassess BP, etc. as discussed. Continue Pimobendan as prescribed. If elected, institute a Sildenafil trial 1-2mg/kg PO q12h and assess response.

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

IMAGES





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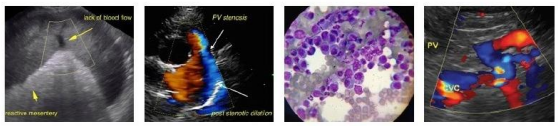

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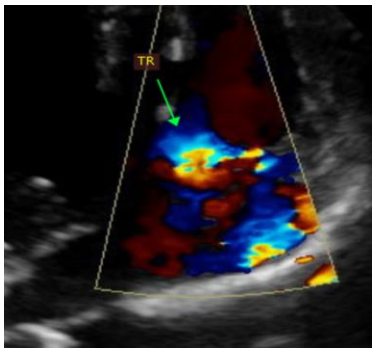

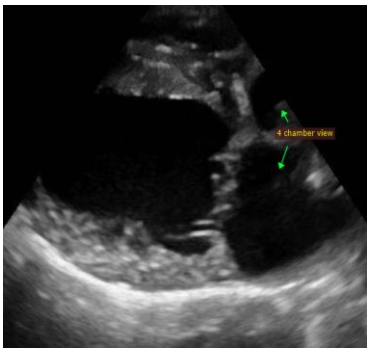

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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