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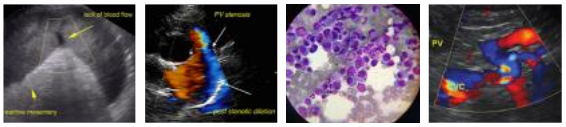


ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
Padraigh Tobin

SPECIES
Canine

BREED
Chihuahua Mix

SEX
Male Neutered

AGE
15 years

WEIGHT
19.1lbs

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

IMAGING PERFORMED BY
Jenna Walsh, CVT

HOSPITAL NAME
Companion Animal Clinic

REFERRING VET
Dr. Casita

INVOICE
31350

DATE
6/14/23

PRESENTING CLINICAL SIGNS

History: Recent onset of stiffening and falling over episodes when excited, lasts 10-20 sec then wobbly after for a few min after. Grade 3/6 L systolic murmur w/ strong sync. Femoral pulses harsh lung sounds bilaterally, no crackles.
-Current medications: Vetmedin 5mg: 1/2-tab BID

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse nodular thickening of mitral valve leaflets. Mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial enlargement. MR velocity is normal. Mild LV dilation with hyperdynamic function. The tricuspid valve appears thickened with mild to moderate tricuspid regurgitation. Velocity consistent with moderate to severe pulmonary hypertension. The pulmonic and aortic valves appear normal in appearance and mobility. Normal pulmonic and aortic outflow velocities. Trivial aortic and no pulmonic insufficiency noted. No pericardial or pleural effusion seen. No obvious cardiac tumors.

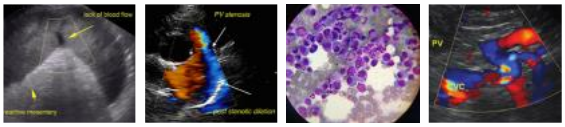
CARDIAC CHART

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	5.6	4.3	2.1	2.2	54	86	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	130	1.0	0.5	8.7	3.0	3.5	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				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)
				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 causing severe mitral and mild to moderate tricuspid regurgitation. Four chamber dilation indicates there is an elevated risk for spontaneous congestive heart failure. Moderate to severe pulmonary hypertension is noted which is likely



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secondary to chronic LA pressure elevation and potentially active congestion. A small aortic leak is noted, and a baseline BP is recommended. No additional issues are identified.

Syncope in this patient is certainly cardiogenic in origin. Baseline chest radiographs are highly recommended; however, full cardiac support is recommend regardless. Possible causes of syncope include poor forward blood flow leading to hypoxia, early CHF, pulmonary hypertension (severe in this case), an arrhythmia and/or blood pressure swings, vasovagal events, etc. In light of severity of disease, CHF is suspected, and aggressive lifelong cardiac supportive therapy is warranted as below. Sildenafil is not clearly warranted unless the episodes persist despite cardiac therapy. If they persist despite Sildenafil, further evaluation via ECG /holter monitoring are highly recommended. Additionally, if the cough persists despite normal breathing rates at home, highly recommend hydrocodone for QOL. Long term prognosis is guarded to poor; however, most dogs are able to maintain a good QOL on medications for an average of 8- 12 months. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope, and/or sudden death in the future.

Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or worsening collapse episodes in the future.

PLAN

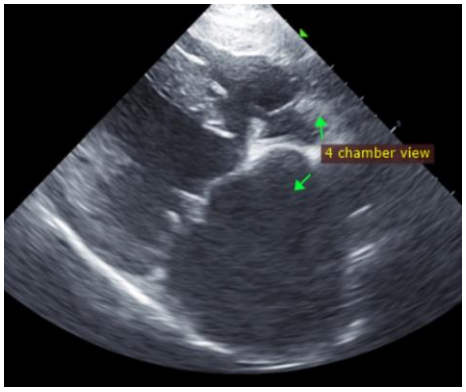
Administer furosemide 1-2mg/kg PO q12h. Continue Pimobendan 0.3mg/kg PO q12h. Institute Spironolactone 1-2mg/kg PO q12h. Baseline BP and CXR are recommended.

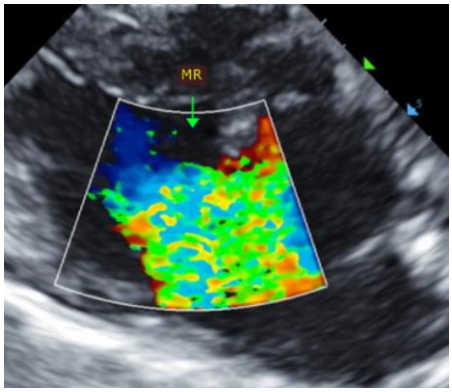
Recheck renal panel and BP in 1-2 weeks. If BP>130mmHg, institute ACE-inhibitor Enalapril or Benazepril 0.5mg/kg PO q12h. If cough persists despite these changes, institute hydrocodone with homatropine 0.2-0.4mg/kg PO up to q4-6h PRN. If syncope persists with exertion, consider Sildenafil 1-2mg/kg PO q12h.

Monitor SRRs at home. Monitor renal values in 10-14 days, then every 3-4 months while on diuretics.

Recommend conservative monitoring with a recheck echocardiogram in 4-6 months, sooner if any development of associated clinical signs occurs in the interim.

IMAGES





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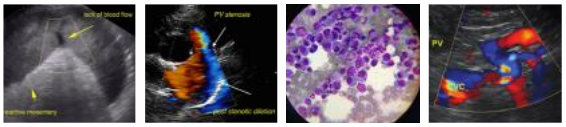

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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