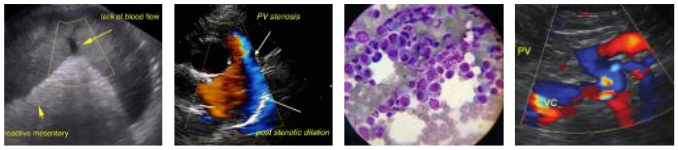
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Java Palmer

SPECIES
Canine

BREED
Yorkie Poodle Mix

SEX
Female Spayed

AGE
11 years

WEIGHT
18.1lbs

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

IMAGING PERFORMED BY
Mark van Campen, DVM

HOSPITAL NAME
Mississippi Hills Animal Hospital

REFERRING VET
Dr. van Campen

INVOICE
31644

DATE
6/29/23

PRESENTING CLINICAL SIGNS

History: Presented for episodes of syncope. Previous back surgery, allergies, bladder stones, Heart murmur present for 5-6 years - no previous work-up. Grade V/VI holosystolic murmur. X-ray shows enlarged heart with pulmonary congestion. Recently started on Pimobendan and Furosemide.

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 marked left atrial enlargement. MR velocity is normal. Moderate LV dilation with adequate function. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. Velocity consistent with mild to moderate pulmonary hypertension. The pulmonic and aortic valves appear normal in appearance and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic insufficiency noted. No pericardial or pleural effusion seen. No obvious cardiac tumors.

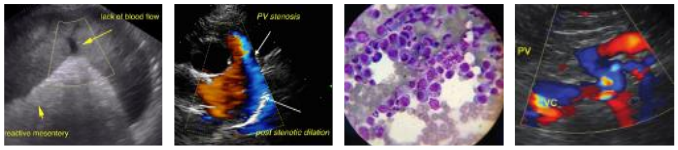
CARDIAC CHART

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	5.8	3.5	NM	2.8	49	81	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	1.4	0.9	8.2	3.0	3.9	1.9
*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)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				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 severe mitral and moderate tricuspid regurgitation. Marked left atrial enlargement indicates there is an elevated risk for spontaneous congestive heart failure. Mild to moderate pulmonary hypertension is noted which is secondary to chronic LA pressure elevation and active congestion. No additional issues.

Syncope in this patient are certainly cardiogenic in origin. The chest films reportedly showed congestion and congestive heart failure is supported. Possible causes of syncope include poor forward blood flow leading to hypoxia, early CHF, pulmonary hypertension (moderate in this case), an arrhythmia and/or blood pressure swings, vasovagal events, etc. In light of severity of disease and active CHF, this is the likely cause and aggressive lifelong cardiac supportive therapy



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is warranted as below. Sildenafil is not clearly warranted unless the episodes persist dispute 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.

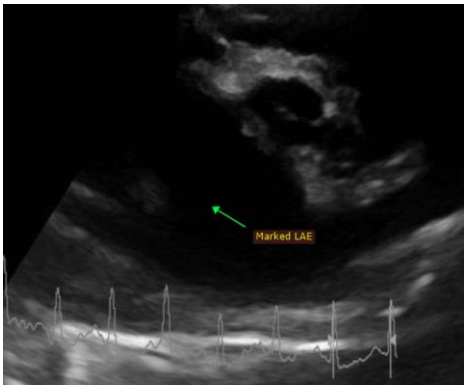
PLAN

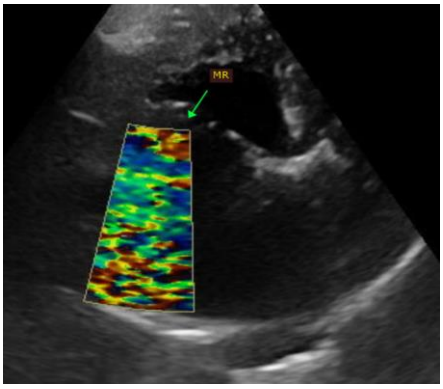
Administer furosemide 1-2mg/kg PO q12h. Administer Pimobendan 0.3mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h. Institute ACE-I 0.5mg/kg PO q12h.

Recheck renal panel and BP in 1-2 weeks then every 3-4 months lifelong. If needed, 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.

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

IMAGES





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
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