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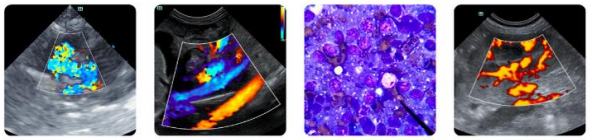


Clinical Sonography & Telecytology
Educational Teleconsultation Services™

SonoPath.com info@sonopath.com 1.800.838.4268

PATIENT

Coco Soto

SPECIES

Canine

BREED

Chihuahua

SEX

Male Neutered

AGE

9 years

WEIGHT

16.3lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Renee Trionfetti, VMD

HOSPITAL NAME

Blue Pearl Wyomissing

REFERRING VET

Blue Pearl Wyomissing, ER

INVOICE

47303

DATE

3/25/26

PRESENTING CLINICAL SIGNS

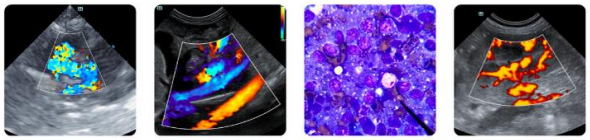
History: Grade 4/6 left apical heart murmur. Recently hospitalized for suspected CHF. Presented to ER on 3/18/25 for dyspnea. PE grade 4/6 HM, tachycardia, and crackles. Hospitalized ~ 48 hrs in O2 (weaned), Lasix, Pimobendan. Responded to therapy and discharged home. About 1 week prior to ER presentation, presented to rDVM with similar signs, rads noted cardiomegaly, started on Lasix and Pimobendan.
Current medications: Furosemide 10mg/ml- 1.2mls PO q12h, Pimobendan 1.5mg/ml - 1.3mls PO q12h. -Abnormal PE/Chem/CBC/UA Results: Echo appt: Grade 5/6 left apical, systolic, possible thrill (nervous/trembling), Grade 3/6 right HM> PQSS, no arrythmias. Normal BVS, normal RR/RE. Lost 0.4 kgs (0.88 lbs) since discharge from ER, likely fluid loss. -BP: 140, 142, 143 mmHg 3/18: CXR (DACVR): Cardiomegaly suggestive of chronic valvular disease. Infiltrate in the lungs typical of pulmonary edema & CHF but the vasculature is not well-seen to confirm. PTE/ARDS could be considered if there is no response to treatment. Enlarged liver. This can be due to any kind of infiltrative process. Inflammatory, infectious or metabolic causes are most typical. 3/19: Chem: ALP 222 H, Cl 97 L, Cr 0.7, BUN 18.7, Phos 5.9 H-mild, K 3.6 L, Na 151, remainder NSF CBC: HCT 58.4, Neuts 15.03 H-mild, PLT 413k, remainder NSF PCV/TS: 54/8

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. The MR velocity is normal. There is severe left atrial enlargement. There is mild left ventricular dilation. Left ventricular systolic function is hyperdynamic. Mild to moderate right atrial and ventricular dilation (subjective). Mild thickening of the tricuspid valve with mild TR. Velocity consistent with moderate pulmonary hypertension. The aortic valve appears trileaflet with normal mobility. No significant AI. There is normal systolic flow velocity across the aortic valve. The main pulmonary artery is normal in diameter. The pulmonic valve is normal in appearance. Flow through the RVOT/PV is normal in velocity. Mild PI. No pericardial/pleural effusion or cardiac masses are seen.

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	6.0	4.0	2.0	2.2	36	66	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	160	1.6	1.2	7.4	2.2	3.6	2.3
*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)



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*Note: All measurements based upon multi-modal images and methods. An average value is reported. 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	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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Moderate pulmonary hypertension is noted with right-sided cardiomegaly as well, which is likely secondary to chronic LA pressure elevation and active congestion. That being said, a component of airway disease may also be present. No additional issues are identified.

Given these findings, a diagnosis of CHF may be supported. That being said, CHF is a clinical and radiographic diagnosis that can only be supported by ultrasound. This patient does have pulmonary hypertension as discussed and primary airway disease must also be ruled out. Regardless, full cardiac medications should be continued going forward. Use of Sildenafil may be warranted, should the patient have residual exertional dyspnea. Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Cough suppression to improve QOL can also be considered (hydrocodone, 0.2-0.4mg/kg up to q4-6h PRN) for any residual mechanical cough in the face of normal sleeping respiratory rates. If able to be stabilized, the average survival time of canine patients with active pulmonary edema is 8-9 months on medications; however, most are able to maintain a good quality of life for that period on medications. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for acute progression of the cough, labored breathing, exercise intolerance or collapse episodes in the future.

Elective anesthesia is not advised, as there is high risk for complication.

PLAN

Consider repeat CXR for comparison in light of the clinical history. Consider Sildenafil (1-2mg/kg PO q8-12) if response to therapy is lacking and/or any exertional dyspnea/syncope is noted. Continue Pimobendan 0.3mg/kg PO q12h. Continue Furosemide 1-2mg/kg PO q12h. Institute Spironolactone 1-2mg/kg PO q12h.

Monitor renal values and BP in 10-14 days, then every 3-4 months while on diuretics to ensure tolerance of medications. If doing well at home, renal values are reasonable and BP >130mmHg, administer ACEI 0.5mg/kg PO q12h. Consider hydrocodone if needed for QOL.

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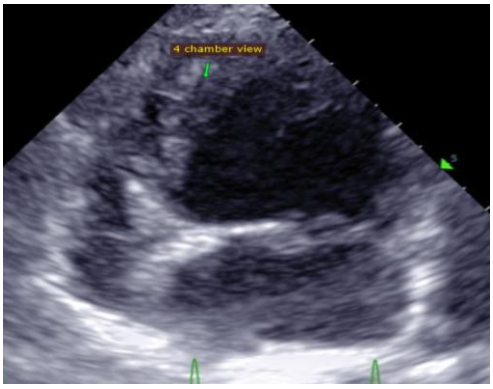
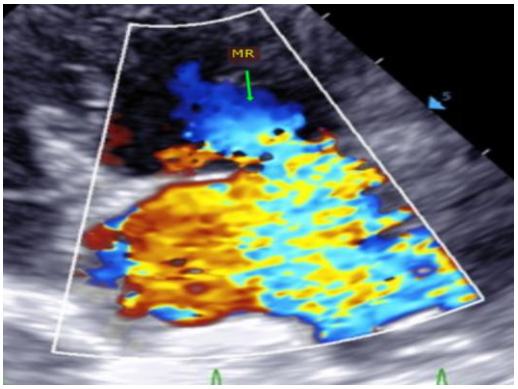
Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of associated clinical signs occurs in the interim.

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
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com