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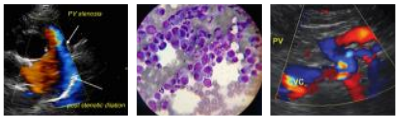

SonoPath
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PATIENT
Lucky Lacovelli

SPECIES
Canine

BREED
Terrier Mix

SEX
Male Neutered

AGE
2.10.10

WEIGHT
19lbs

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

HOSPITAL NAME
Chadwell Animal Hospital

REFERRING VET
Dr. Schaupp

INVOICE
28467

DATE
1.19.23

PRESENTING CLINICAL SIGNS

History: Recheck echo. Lethargy, polydipsic, waxing and waning appetite, exercise intolerant. PE- 1lb weight loss. Grade 5 systolic murmur. No crackles or wheezing ausculted. Pale pink MM, slight pot belly (not ascites). Uncontrollable cough throughout the study, imaging performed standing.
-Radiographs: Cardiomegaly- left atrial enlargement, trachea pushed dorsally, hepatomegaly, mild hilar edema. Lung fields appear clear.
-Current medications: Pimobendan 1.25mg AM, 2.5mg PM, Lasix 12.5mg BID for 2 days, then ½ BID.
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results (8/2020 MML): Moderate MR, moderate LAE, mild LVE, trace TR: 2.5m/s. LA: 2.2, LV: 2.7.
-STAT: Not requested
-Imaging performed by:

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental information only.

Cardiomegaly without obvious evidence of CHF.

ECHOCARDIOGRAM FINDINGS

2D, m-mode and Doppler imaging are available. Diffuse thickening of mitral valve leaflets (anterior> posterior) with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Mild LV dilation with hyperdynamic myocardial function. The tricuspid valve appears mildly thickened, with moderate tricuspid regurgitation. Velocity consistent with moderate pulmonary hypertension. Mild right atrial and ventricular dilation. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No pulmonic or aortic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors observed.

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	5.4	3.9	NM	2.1	37	67	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	182	1.3	0.8	8.6	3.0	3.9	2.5
*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.*				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 persists with evidence of progression. Moderate disease has become severe with increased mitral and tricuspid regurgitation. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Moderate TR is also noted, with evidence of moderate pulmonary hypertension, which was not appreciated previously. No additional issues are identified.

The described cough is likely multi-factorial in origin, including a mechanical component due to cardiomegaly, possible concurrent airway disease and/or early CHF given the severity of disease. Screening chest radiographs do not show overt pulmonary edema; however, given the symptoms and echo findings, full lifelong cardiac support is recommended as below including continued Lasix therapy. Addressing the respiratory signs specifically is also recommended if there is minimal response to Lasix, such as a course of Baytril and aggressive Hydrocodone. Additionally, the non-specific symptoms of polydipsia, etc warrant systemic work up through lab work, UA, etc to ensure no additional issues are at play that may warrant treatment.

Monitoring of sleeping breathing rates in the future will be paramount to determine the origin of any future cough. The average survival of canine patients with active pulmonary edema is 8-9 months on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future. Monitoring of renal values is recommended lifelong.

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

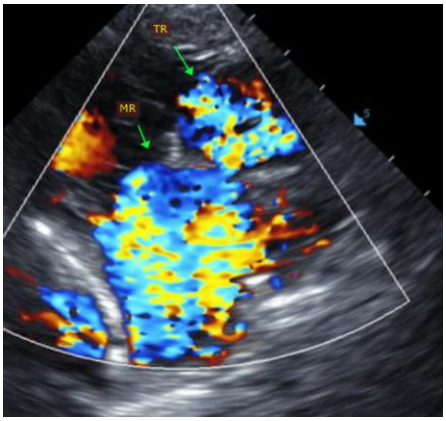
PLAN

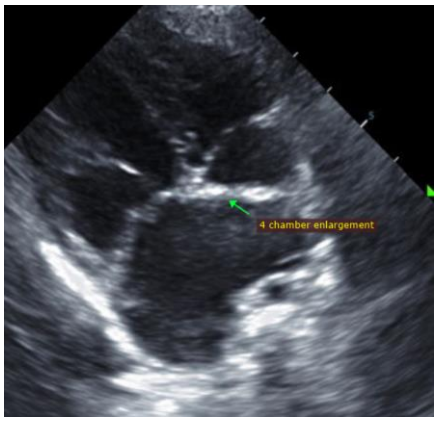
Screening BP and lab work are recommended. Continue Pimobendan 0.3mg/kg PO q12h. Continue low dose Lasix 1mg/kg PO q12h. Institute Spironolactone 1-2mg/kg PO q12h. Pending BP >130mmhg, institute ACE-I 0.5mg/kg PO q12h. Consider further respiratory evaluation/treatment if lack of response, such as Hydrocodone, a course of Baytril, etc. A Radiologist review of the films may be beneficial for further pulmonary evaluation.

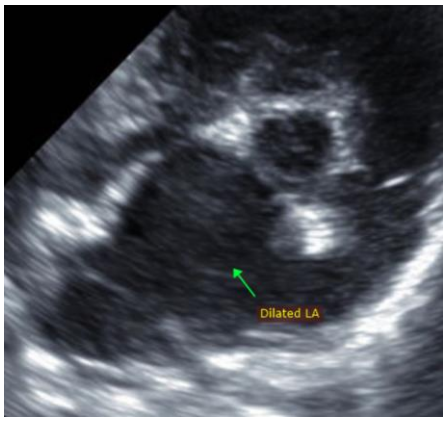
A renal panel and BP are recommended in 10-14 days, then every 3-4 months on diuretics to ensure tolerance of medications.

A recheck echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs arise/persist.

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