IMAGING PERFORMED BY

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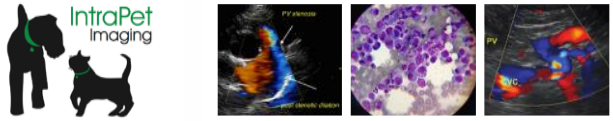

SonoPath
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PATIENT
Lilly Mima

SPECIES
Canine

BREED
Cockapoo

SEX
Female Spayed

AGE
2.14.00

WEIGHT
18.4lbs

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

IMAGING PERFORMED BY
Andi Parkinson, RDMS

HOSPITAL NAME
Banfield Pet Hospital of Towson

REFERRING VET
Dr. Lewis

INVOICE
22643

DATE
2.16.22

PRESENTING CLINICAL SIGNS

History: Recheck echo. Two collapsing episodes recently. BCS: 5/9, Eyes: bilateral nuclear sclerosis, heavy dental tartar, Heart/Lungs: 5/6 heart murmur. pulses strong and synchronous. Eupneic, lungs clear, no crackles.
-Pertinent abnormal PE/Chem/CBC/UA Results: Superchem and CBC performed 2/14/22 WNL.
-Current medications: Pimobendan 2.5mg 1 PO BID *started 8/27/21, Proin 25mg 1/2 PO BID, Lasix 12.5mg 1.5 PO BID *started 2/14/22.
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results (8-26-21 MML): Moderate MR, moderate LAE, borderline LV, mild TR; 3.1m/s. LA: 2.5, LV: 3.8
-STAT: Not requested.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets (anterior>posterior) with significant prolapse into the left atrial lumen. A flail leaflet is visualized. Suspect ruptured chordae tendineae. Severe Eccentric mitral regurgitation with severe left atrial dilation. Normal MR velocity. Moderately increased LV diameter with hyperdynamic myocardial function. The tricuspid valve appears thickened with septal prolapse and moderate tricuspid regurgitation. Velocity consistent with moderate pulmonary hypertension. Mild right heart enlargement. Mild MPA dilation. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic 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	4.9	4.0	NM	2.5	50	84	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	177	1.3	0.9	8.3	3.0	4.5	2.1
*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 evidence of significant progression. The left heart dimensions are significantly increased comparatively, with evidence of a ruptured chordae tendineae/flail leaflet. There is also progression in pulmonary pressures and use of Sildenafil is warranted.

These findings would certainly support the recent diagnosis of congestive heart failure and medications are warranted lifelong as below. 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. The average survival time 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.

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.

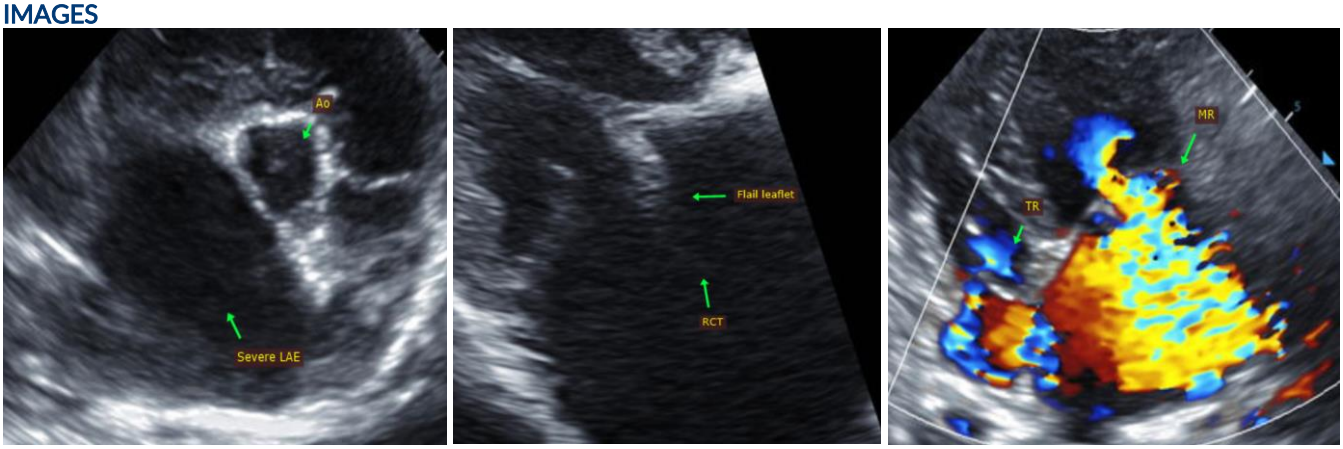
PLAN

Continue Pimobendan and Lasix as prescribed. Institute spironolactone 1-2mg/kg PO q12h. Institute Sildenafil 1-2mg/kg PO q12h. Baseline BP strongly recommended with prion administration.

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

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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