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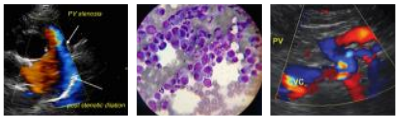

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PATIENT
Lainey Allen

SPECIES
Canine

BREED
Maltese

SEX
Female Spayed

AGE
1.8.08

WEIGHT
8lbs

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

HOSPITAL NAME
Happier At Home Mobile Vet

REFERRING VET
Dr. Haskin

INVOICE
22878

DATE
3.1.22

PRESENTING CLINICAL SIGNS

History: Recheck echo. Patient has been having increased coughing over last 1-2 months. CXR in Jan showed increased perihilar edema. Lasix increased to 5mg TID and recheck echo recommended. Recently owner noted no change in increased cough on increased Lasix and has now scheduled echo. No murmur ausc on exam.
-Radiographs: Increased perihilar edema.
-Current medications: Lasix 5mg TID, Spironolactone 25mg- ¼ TID, Pimobendan 0.626mg TID, Enalapril 2.5mg- ½ BID.
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results (7/13/21 MML): Severe MR, severe LAE, moderate LVE, moderate TR, moderate PAH, mild RHE. TR: 2.7, LA: 2.0, LV: 3.3.
-STAT: Not requested
-Imaging performed by: Andi Parkinson, RDMS.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Normal MR velocity. Moderate LV dilation with hyperdynamic myocardial function. The tricuspid valve appears thickened with moderate TR. 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 mildly elevated outflow velocities with laminar flow. Mild AI. Trace PI. Moderate MPA dilation. No pericardial or pleural effusion noted. No obvious cardiac masses.

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	5.1		NM	2.3	50	82	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	120	1.6	NM	3.6	2.2	3.3	1.7
*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

Compared to the prior study there is evidence of mild progression. The left heart dimensions are increased with persistently severe MR. The TR velocity was unable to be measured due to patient instability; however, significant pulmonary hypertension is suspected. The aortic leak is similar to previous, and no additional issues are identified.

It is unclear at this time if the current cough is due to recurrent CHF and/or primary respiratory causes; however, a lack of response to increased Lasix would suggest the latter. Hydrocodone is strongly recommended in this instance, assuming the breathing rates at home are normal. The Lasix dose is >4mg/kg per day and further increases must only be done if pulmonary edema is confirmed. Pimobendan can be increased as below. Finally, addition of Sildenafil can be attempted to assess for improvements in clinical stability. No additional changes are warranted.

The prognosis is poor long-term. 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.

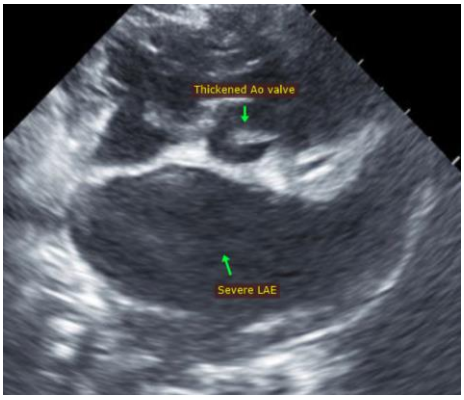
PLAN

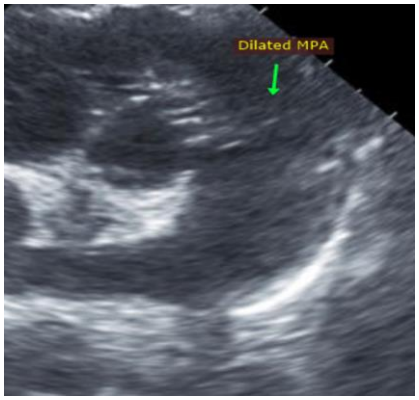
Increase Pimobendan to 1.25mg PO q8h. Continue Lasix, Spironolactone and Enalapril as prescribed. Institute Sildenafil 5mg PO q8h. Highly recommend hydrocodone (up to q4-6 hours PRN) to improve mechanical cough.

Monitor breathing rates, renal values and BP every 3-4 months lifelong.

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.

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