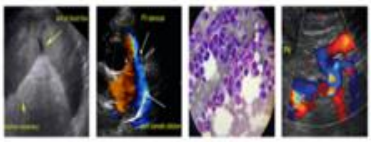
Mass Veterinary Services



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Lola Kulmizev

SPECIES
Canine

BREED
Yorkshire Terrier

SEX
Female Spayed

AGE
13 years

WEIGHT
7.56lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
27339

DATE
11/8/22

PRESENTING CLINICAL SIGNS

History: Lola is referred for a heart murmur and persistent cough, worse at night. The owner notes some labored breathing. She continued to have a good appetite and maintains a normal activity level. On exam: NSR, grade IV/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear, abdominal component to breathing. BP: 70-80 mmHg. No medications. CXR(3v)---> cardiomegaly; dorsal deviation of trachea; collapsed extra thoracic, cervical trachea; compression of main stem bronchus; broncho-alveolar pattern in perihilar area with mild bronchointerstitial pattern caudal lung fields. Plan: - disp diphenoxylate 2.5mg 1/2 tab twice a day - disp pimobendan 3.75mg 1/4 tab twice a day - disp Lasix 12.5mg 1/4 tab twice a day *Sedated with alfaxalone for study.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: Severe LV dilation with hyperdynamic myocardial function. Decreased LV wall thickness.
Left atrium: The left atrium is markedly dilated. Pulmonary veins appear dilated as they enter the lumen.
Mitral valve: Marked diffuse thickening of mitral valve leaflets with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: Mild RV dilation.
Right atrium: Mild right atrial dilation.
Tricuspid valve: The tricuspid valve appears thickened with mild to moderate tricuspid regurgitation. Elevated velocity consistent with moderate pulmonary hypertension.
Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. The MPA appears mildly dilated. Normal pulmonic outflow velocities with laminar flow. No PI.
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.
Heart rhythm: ECG reveals a sinus rhythm with an average HR of 170bpm.

2-Dimensional Measurements

Ao diam (cm)	1.2
LA diam (cm)	3.0
LA:Ao (Swe)	2.5
IVS thickness (cm)	0.6
LVID diastole (cm)	2.8
PW thickness (cm)	0.6
LVID systole (cm)	1.2
FS (%)	57

Doppler Measurements

PV Vmax (m/s)	0.6
AoV Vmax (m/s)	0.84
MR Vmax (m/s)	4.1
TR Vmax (m/s)	3.6
TR PG (mmHg)	51

INTERPRETATION OF THE FINDINGS

The cause of the murmur is chronic degenerative valve disease causing severe mitral and mild to moderate tricuspid regurgitation. Marked left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Moderate pulmonary hypertension is noted, which is likely secondary to a combination of chronic LA pressure elevation and potentially some degree of primary airway disease. No additional issues are identified.

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In light of a progressive cough and severity of disease on echocardiogram, there is concern for early congestive heart failure and institution of full cardiac supportive medications is recommended as below. Sildenafil is not clearly warranted at this time, however, should any exertional dyspnea or collapse develop in the future I would not hesitate to institute it.

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.

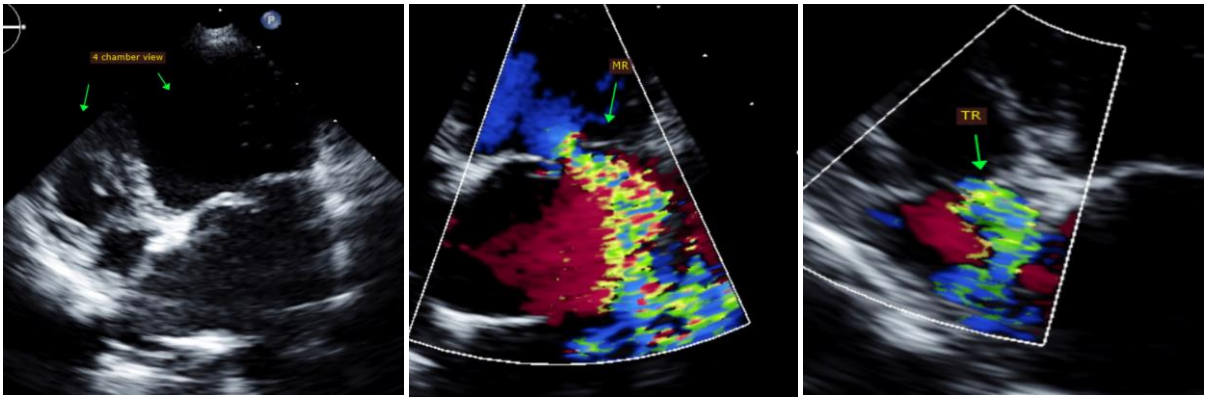
RECOMMENDATIONS

- Institute furosemide 1-2mg/kg PO q12h.
- Institute spironolactone 1-2mg/kg PO q12h.
- Institute Pimobendan 0.3mg/kg PO q12h a
- Pending response, consider hydrocodone with homatropine 0.2-0.4mg/kg up to q4-6 hours PRN for any residual mechanical cough in the face of normal sleeping respiratory rates.
- If any exertional dyspnea/collapse develops in the future, institute Sildenafil 1-2mg/kg PO q8-12h.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.
- Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home.
- Elective anesthesia is not advised.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.

PLAN

- Monitor renal values and BP in 1-2 weeks. If BP >130mmHg, institute ACEI 0.5mg/kg PO q12h. Monitor renal panel/NBP every 3-4 months lifelong.
- Recommend conservative monitoring with a recheck echocardiogram in 4-6 months, sooner if any development of clinical signs.

IMAGES



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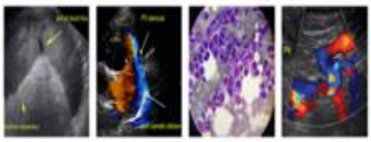

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

Echocardiogram performed by: Pamela Harrigan, RDCS
Pet Animal Ultrasound Service (4paus.com)