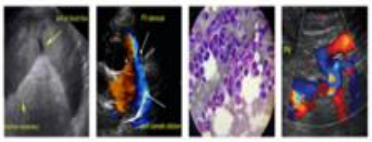
Mass Veterinary Services



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

PATIENT
Kingsley Patterson

SPECIES
Canine

BREED
Shih Tzu

SEX
Male Neutered

AGE
11 years

WEIGHT
17lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
24806

DATE
6/15/22

PRESENTING CLINICAL SIGNS

History: Kingsley presented to rDVM in May for dyspnea. Chest films revealed cardiomegaly. Started on Lasix, Enalapril and Pimobendan. His cough improved (lessened) on medications. Resting respiratory rate has been between 20-22. Good appetite and normal activity level. On exam today: NSR, grade IV/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear. BP: 180 mmHg x 4. Current medications: 1) Pimobendan/vetmedin 5mg 1/2 tab twice a day 2) Enalapril 5mg 1 tab twice a day 3) Lasix/furosemide 12.5mg 1/2 tab twice a day 4) Omega 3 fish oil 5) Cardiac support vitamin (taurine, hawthorne berry, coenzyme Q) 6) Chorea (liver support) 7) Hawthorne, dandelion drops 8) L-arginine 9) mushroom powder *No sedation for study.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: Significant LV dilation with hyperdynamic myocardial function.
Left atrium: The left atrium is severely dilated.
Mitral valve: Diffuse thickening of mitral valve leaflets with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with a normal velocity.
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 tricuspid regurgitation. Mildly elevated velocity consistent with mild 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 130bpm.

2-Dimensional Measurements

Ao diam (cm)	1.6
LA diam (cm)	3.7
LA:Ao (Swe)	2.3
IVS thickness (cm)	0.6
LVID diastole (cm)	3.6
PW thickness (cm)	0.6
LVID systole (cm)	1.6
FS (%)	55

Doppler Measurements

PV Vmax (m/s)	0.5
AoV Vmax (m/s)	1.4
MR Vmax (m/s)	5.4
TR Vmax (m/s)	3.2
TR PG (mmHg)	40

INTERPRETATION OF THE FINDINGS

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. Mild pulmonary hypertension is noted, which is likely secondary to chronic LA pressure elevation. No additional issues are identified.

In light of the clinical signs, reported chest radiograph findings and severity of disease on echocardiogram, the diagnosis of congestive heart failure is supported, and continued medications are warranted lifelong as below.

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

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period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

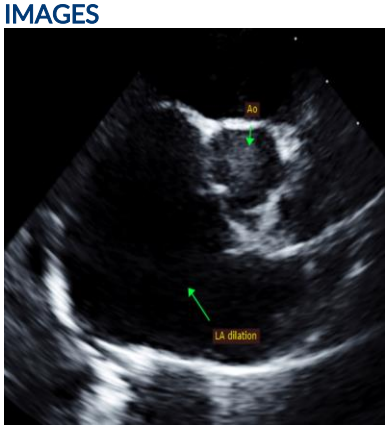
RECOMMENDATIONS

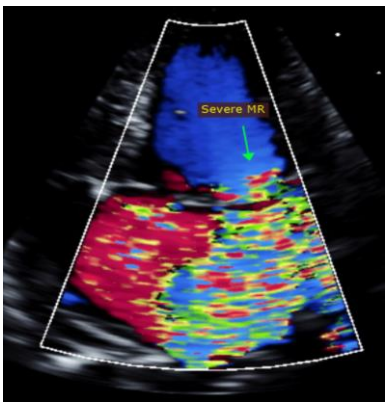
- Administer Lasix 1-2mg/kg PO q12h.
- Institute Spironolactone 1-2 mg/kg PO q 12h.
- Administer Pimobendan 0.25-0.3 mg/kg PO q12h.
- Administer ACE-I 0.5mg/kg PO q12h.
- Cough suppression to improve QOL can also be considered (hydrocodone, 0.2-0.4mg/kg up to q4-6h PRN) for any residual mechanical cough in the face of normal sleeping respiratory rates.
- 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.

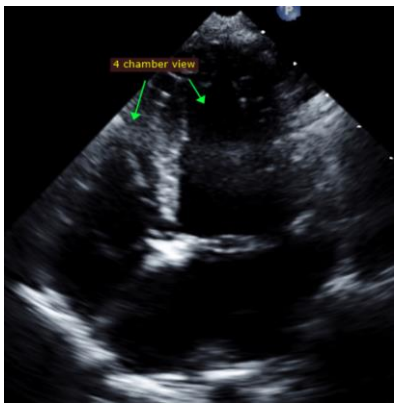
PLAN

- Monitor renal values and BP in 1-2 weeks, then every 3-4 months lifelong.
- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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

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