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Pet Animal Ultrasound Service
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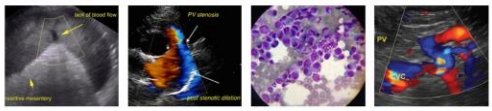

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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PATIENT
Baby Girl Sharif

SPECIES
Canine

BREED
Yorkshire Terrier

SEX
Female Spayed

AGE
16 years

WEIGHT
6.12lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Airport Animal Hospital

REFERRING VET
Dr. Gudluru

INVOICE
28777

DATE
2/3/23

PRESENTING CLINICAL SIGNS

History: Grade V/VI systolic murmur; marked coughing. Has severe dental disease - echocardiogram prior to anesthesia for dental procedure. BP: 120mmHg. On Clindamycin liquid x 2 weeks. *No sedation for study.
-Abnormal PE/Chem/CBC/UA Results: Alb 2.4; Bun 76; neut 13,940, platelet 551.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: LV is mildly dilated with hyperdynamic function.
Left atrium: The left atrium is severely dilated.
Mitral valve: Diffuse thickening of mitral valve leaflets with prolapse into the left atrial lumen. Flail anterior leaflet. Severe eccentric mitral regurgitation, normal velocity.
Aortic valve/Aorta: The aortic valve is normal. Normal aortic outflow velocity; laminar flow.No aortic insufficiency.
Right ventricle: Mild RV dilation.
Right atrium: Mild RA dilation.
Tricuspid valve: The tricuspid valve appears mildly thickened with septal prolapse and mild tricuspid regurgitation. TR velocity is mildly elevated consistent with early pulmonary hypertension.
Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. Normal pulmonic outflow velocities. No pulmonic insufficiency.
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.
Heart rhythm: ECG reveals a sinus rhythm with an average HR of 140bpm.

2-Dimensional Measurements

Ao diam (cm)	1.0
LA diam (cm)	2.3
LA:Ao (Swe)	2.3
IVS thickness (cm)	0.6
LVID diastole (cm)	2.5
PW thickness (cm)	0.6
LVID systole (cm)	0.9
FS (%)	64

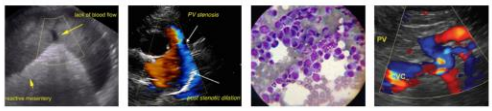
Doppler Measurements

PV Vmax (m/s)	0.64
AoV Vmax (m/s)	1.1
MR Vmax (m/s)	5.6
TR Vmax (m/s)	2.9
TR PG (mmHg)	34

INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation is identified. 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 and a cough symptom. No obvious additional issues are identified.

An increase in coughing is noted in the history, which is suspected to be due to a combination of airway disease and a mechanical obstruction in this predisposed breed. That being said, the patient is at high risk for decompensation and close monitoring of breathing at home is advised. CXR are strongly recommended. Recommend continued cardiac supportive medications as below including a weak diuretic, Spironolactone. The blood pressure is mildly low for a patient in hospital and if this is thought to be accurate, an ACE-I should not be utilized. Reassessment is advised. Pending response, cough



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suppression (up to q4-6 hours) may also be helpful for mechanical cough. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.

Long term prognosis is guarded to poor; however, I am hopeful we can stabilize the patient for some time on medications. Once CHF develops, they are generally able to maintain a good quality of life for an average of 8-12 months. Patient will always be at risk for progression to CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

RECOMMENDATIONS

- Administer Pimobendan 0.3mg/kg PO 12h.
- Reassess BP, if >130mmHg, Institute ACE-I (benazepril or enalapril) 0.5mg/kg PO q12h.
- Institute Spironolactone 1-2mg/kg PO q12h.
- Consider hydrocodone with homatropine for QOL (0.2-0.4mg/kg PO up to q4-6 hours PRN for cough; available in 5/1.5mg tabs and 5mg/5ml liquid suspension).
- Baseline CXR recommended to determine if Lasix is indicated.
- Elective anesthesia is not advised, as there is high risk for complication. Risk:benefit ratio should be considered. Consider consultation with and/or referral to a facility with an anesthesiologist. Should you elect to proceed, cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 cage. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Moderate IV fluid restriction is recommended to avoid fluid overload, while considering comorbidities, hydration status, BP, etc. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes. Monitoring of sleeping breathing rates is the best way to screen for progression to CHF at home.

PLAN

- A recheck renal panel and BP is recommended in 1-2 weeks, then every 3-4 months lifelong.
- A recheck echocardiogram is recommended in 4-6 months to screen for progression, sooner if clinical signs arise.

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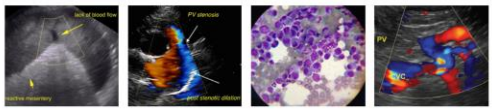

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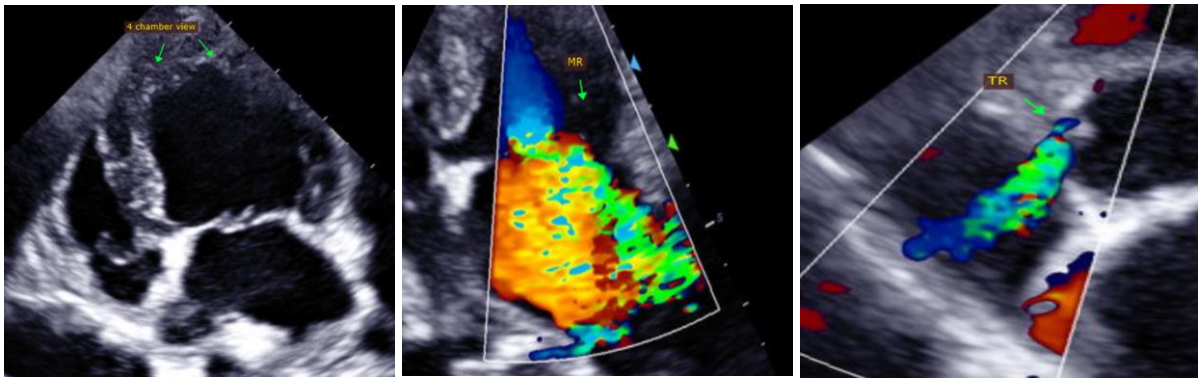

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)