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Pet Animal Ultrasound Service
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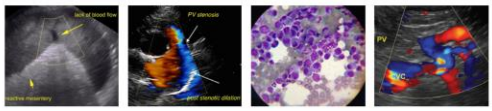

SonoPath
Clinical Sonography & Telecytology
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PATIENT
Goldie Nadeau

SPECIES
Canine

BREED
Beagle

SEX
Female Spayed

AGE
10 years

WEIGHT
29lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Wood River Animal Hospital

REFERRING VET
Dr. Fischer

INVOICE
24475

DATE
5/30/22

PRESENTING CLINICAL SIGNS

History: Recheck echo. History chronic valvular disease - Stage late B2. Clinically stable. BP: 135mmHg.
-Pertinent previous echo findings (11/16/21 Maggie Machen Lamy, DVM, DACVIM-Cardiology): LA 3.3 cm; LA:Ao 1.9; LV 3.94 cm; moderate LAE; moderate MR; mild-moderate TR. *Sedated with butorphanol.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s, 10mm/mV. The average heart rate is 100bpm (range 36-166bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. P and QRS morphologies are positive. A single isolated APC is suspected, although a sinus origin is not ruled out given an instantaneous heart rate of only 166bpm. Additionally, a brief supraventricular run is identified, again with a heart rate of 166bpm. A brief warm up period is identified; however, acute termination is noted. No ventricular premature beats, pauses or other dysrhythmias observed.
ECG diagnosis: Suspect sedated respiratory sinus arrythmia; however, occasional supraventricular arrythmias are not ruled out.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is mildly increased with hyperdynamic myocardial function. LV wall thicknesses are normal.
Left atrium: The left atrium is severely dilated. Pulmonary veins appear dilated as they enter the lumen.
Mitral valve: 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 right ventricular dilation.
Right atrium: Mild RA dilation.
Tricuspid valve: The tricuspid valve appears mildly thickened with mild septal prolapse and mild tricuspid regurgitation. Normal velocity.
Pulmonary valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. Trace pulmonic insufficiency. Normal RVOT velocity; laminar flow.
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	1.9
LA diam (cm)	3.9
LA:Ao (Swe)	2.4
IVS thickness (cm)	0.9
LVID diastole (cm)	4.1
PW thickness (cm)	0.9
LVID systole (cm)	2.2
FS (%)	46

Doppler Measurements

PV Vmax (m/s)	0.7
AoV Vmax (m/s)	1.7
MR Vmax (m/s)	4.9
TR Vmax (m/s)	2.3
TR PG (mmHg)	22

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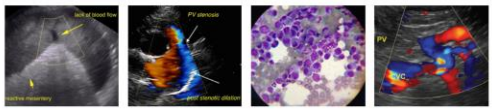

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INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease persists causing mitral and tricuspid regurgitation. Unfortunately, there is significant progression compared to the prior study, with severe MR and left heart enlargement. No additional issues such as pulmonary hypertension are noted.

These findings and pulmonary vein dilation are concerning for early progression to congestive heart failure and full lifelong medications are recommended as below. Baseline chest radiographs should be considered. Hydrocodone can be utilized if needed for quality of life.

With this degree of left heart changes, the risk for recurrent congestive heart failure is elevated going forward. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded to poor once on diuretic therapy (stage C). Unfortunately, the patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

The ECG is most consistent with a profound respiratory sinus arrythmia, secondary to sedation. Occasional supraventricular arrhythmias are possible, although the max reported heart rate is only 166bpm. This is significantly elevated compared to the resting heart rate, although not classic for APCs/SVT. Regardless, with this degree of structural disease either is a possibility. No treatment is warranted at this time; however, follow up ECG evaluation is recommended.

RECOMMENDATIONS

- Administer Furosemide 1-2mg/kg PO q12h.
- Administer Spironolactone 1-2mg/kg PO q12h.
- Administer ACEI 0.5mb/kg PO q12h.
- Continue Pimobendan as prescribed.
- Consider Hydrocodone if needed for quality of life (up to q4-6h PRN).
- Close monitoring for development of associated clinical signs (development of a cough, labored breathing, exercise intolerance or worsening collapse episodes) is recommended.
- Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Mild activity restriction is advised.
- Elective anesthesia is not advised.

PLAN

- A renal panel is recommended in 1-2 weeks to ensure tolerance of medication changes, then every 3-4 months lifelong.
- Recommend recheck echocardiogram and ECG in 6 months, sooner if any development of clinical signs.

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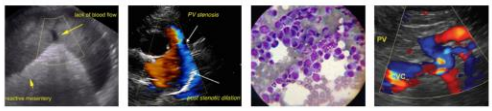

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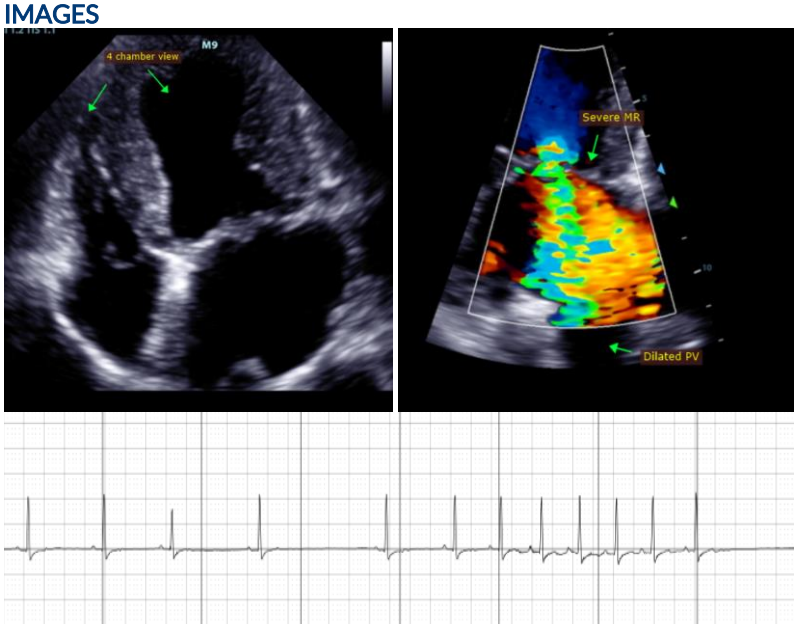
IMAGES



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