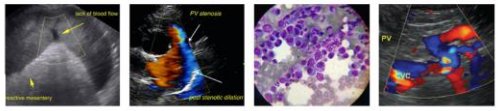
Mass Veterinary Specialty Services
1-413-734-1292



SonoPath
Clinical Sonography & Telecytology
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1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Daisy Bernier

SPECIES
Canine

BREED
Great Dane

SEX
Female Spayed

AGE
8 years

WEIGHT
97.6lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Specialty Services

REFERRING VET
Dr. Masloski

INVOICE
21362

DATE
10/5/21

PRESENTING CLINICAL SIGNS

History: Recheck echo. History mildly-moderately depressed LV systolic function with normal LA size. Presently, Daisy is doing well at home with no new problems. She has more energy and is doing better on her walks since starting her medications. No collapse episodes. She is presently eating well with no C/S/V/D/PU/PD. Daisy's blood pressure is much improved with the enalapril. CV/RESP: arrhythmia, grade III/VI murmur with PMI left apical area, PSS, lung fields clear. BP: 140mmHg x 5.
-Current medications: 1) Enalapril 20mg 1 tab twice a day 2) Taurine 1000mg twice a day 3) Trazadone Co Q 10 daily *No sedation for study.
-Pertinent previous echo findings (3/16/21 MML): LA 3.7 cm; LA:Ao 1.1; LV 4.93 cm; FS 20%.
-Previous ECG findings: 2nd degree AV block under sedation; resolved following sedation; however, isolated VPCs were noted.

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 80bpm (range 47-100bpm). The underlying rhythm is sinus in origin, with a p for every QRS complex and vice versa. P and QRS morphologies are positive. Frequent 2nd degree AV block with obvious prolongation of the PR interval (type I). A single VPC is seen in a two-minute tracing. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with 2nd degree AV block (type I) and a single VPC.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV is mildly dilated with mild myocardial dysfunction. LV wall thicknesses are normal.
Left atrium: The left atrium is normal.
Mitral valve: The mitral valve is normal with no prolapse into the left atrial lumen. Mild double jet of 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: Normal right ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension.
Right atrium: Normal RA dimension.
Tricuspid valve: The tricuspid valve appears normal with trivial tricuspid regurgitation.
Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. No 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)	3.1
LA diam (cm)	3.3
LA:Ao (Swe)	1.0
IVS thickness (cm)	1.1
LVID diastole (cm)	5.5
PW thickness (cm)	1.1
LVID systole (cm)	4.2
FS (%)	23.6

Doppler Measurements

PV Vmax (m/s)	1.3
AoV Vmax (m/s)	1.8
MR Vmax (m/s)	NM
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

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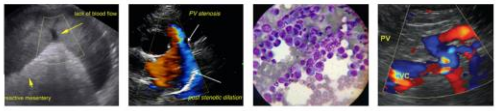

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INTERPRETATION OF THE FINDINGS

Compared to the prior study, there is a slight improvement in systolic function; however, the LV chamber is increased comparatively. Despite this change the overall dilation is mild for this body size and the LA remains normal. These findings may be due to Taurine supplementation; however, the patient was previously heavily sedated making this likely to reflect the true baseline. Regardless, a lack of left atrial enlargement indicates that the current risk for complication is low. No additional issues are identified.

The ECG shows persistent 2nd degree AV block even without sedation which is interesting. The PR interval can be seen prolonging prior to the block, which would suggest a benign origin due to high vagal tone. Only a single VPC is noted which does not warrant therapy at this time. No additional abnormalities are visualized.

Given these findings, no additional medications are indicated. The BP is improved presumably due to Enalapril therapy, which should be continued. Regardless, this patient is at risk for progression in the future to congestive heart failure, malignant arrythmias and/or sudden death going forward. Close monitoring is advised.

RECOMMENDATIONS

- No medications are indicated.
- Continue taurine supplement and Enalapril as prescribed.
- Consider a holter monitor every 6 months as the gold standard approach to arrythmias.
- Omega fatty acid supplementation may also be of some long-term benefit in dogs predisposed to arrhythmias.
- Anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. **Premedicating with Atropine is strongly recommended due to high vagal tone.**
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

- Recommend recheck echocardiogram and ECG ideally without sedation in 6 months, sooner if any development of clinical signs.

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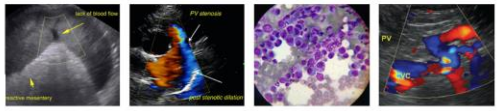

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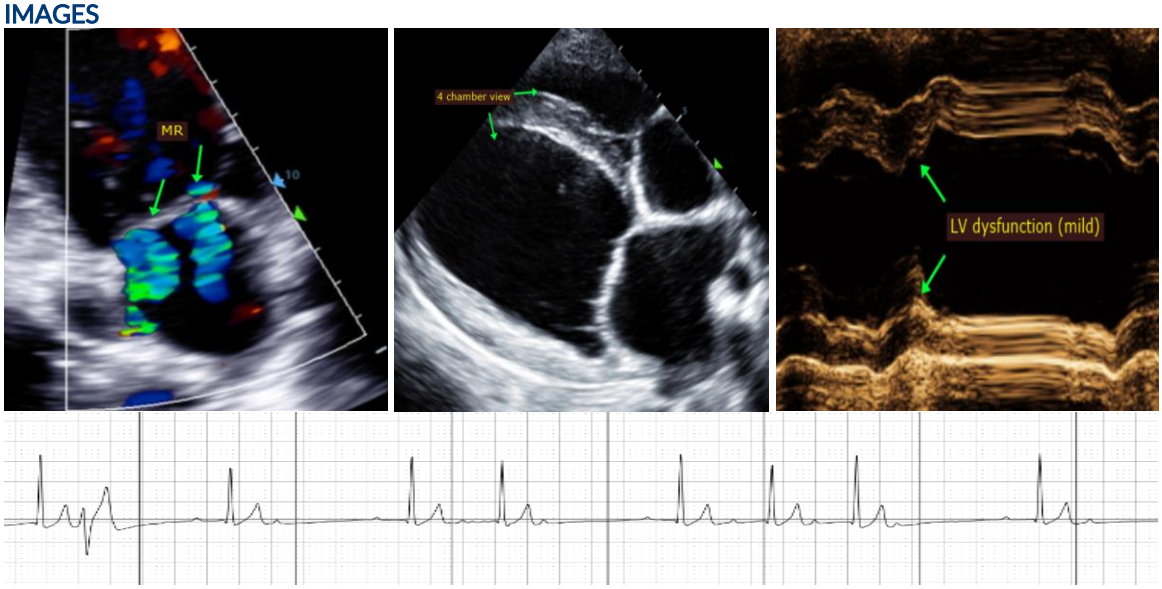
IMAGES



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

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