PAUS
Pet Animal Ultrasound Service
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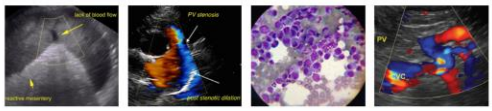

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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PATIENT
Daisy Haskell

SPECIES
Canine

BREED
Labrador Retriever

SEX
Female Spayed

AGE
14.5 years

WEIGHT
70.6lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Anchor Animal Hospital

REFERRING VET
Dr. Pietsch

INVOICE
30086

DATE
4/6/23

PRESENTING CLINICAL SIGNS

History: Patient became acutely disoriented and weak on 3/22. PE the patient was very lethargic and weak. She had an arrhythmia with pulses alternans and VPCs were noted on EKG. On x-rays a large mid abdominal mass was noted. Brief AUS showed a large cavitated mass suspected to be splenic in origin. No free fluid noted. The owner wants AUS to confirm suspected diagnosis of hemangiosarcoma and also would like the heart examined to see if hemangioscarcoma is present there as well. On Yunnan Baiyao, Galliprant, Gabapentin and multiple herbal medications form holistic veterinarian. Having bi-cavity ultrasound exams.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is borderline in diastole and mildly dilated in systole (LVIDdN: 1.66, LVIDsN: 1.27), with depressed myocardial function. LV wall thicknesses are normal.
Left atrium: The left atrium is mildly dilated.
Mitral valve: The mitral valve is normal with mild central 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 enlargement.
Right atrium: Mild RA enlargement.
Tricuspid valve: The tricuspid valve appears normal with no 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.
Heart rhythm: ECG reveals a sinus rhythm with an average HR of 80bpm.

2-Dimensional Measurements

Ao diam (cm)	2.6
LA diam (cm)	3.9
LA:Ao (Swe)	1.4
IVS thickness (cm)	1.0
LVID diastole (cm)	4.6
PW thickness (cm)	1.0
LVID systole (cm)	3.8
FS (%)	17

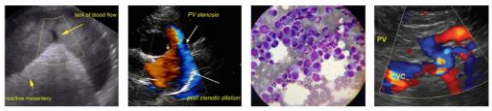
Doppler Measurements

PV Vmax (m/s)	0.50
AoV Vmax (m/s)	0.9
MR Vmax (m/s)	NM
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

INTERPRETATION OF THE FINDINGS

The primary abnormality identified is moderate LV dysfunction. This in addition to mild dilation in systole is most consistent with dilated cardiomyopathy (DCM). Mild MR is hemodynamically insignificant, and no additional issues are identified. The LA is only mildly dilated indicating relatively low risk for complication at this time. No cardiac or extra-cardiac tumors are appreciated in this study.

Systolic dysfunction can be primary in nature (DCM) or secondary to taurine deficiency, myocarditis, tachycardia-induced cardiomyopathy, thyroid imbalance, or infiltrative disease such as lymphoma. A thorough diet history as able may be beneficial with avoidance of non-traditional options. A thyroid level should be considered. A taurine level



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can be submitted; however, regardless of results recommend a taurine supplement in this case as below.

The patient is borderline for Pimobendan at this juncture; however, given the totality of the findings I would consider institution if possible (particularly if anesthesia is needed).

Prognosis is guarded long-term, although the splenic abnormalities are likely a limited factor in this case. Patient may be at risk for progression to CHF, development of arrhythmias and/or sudden death going forward.

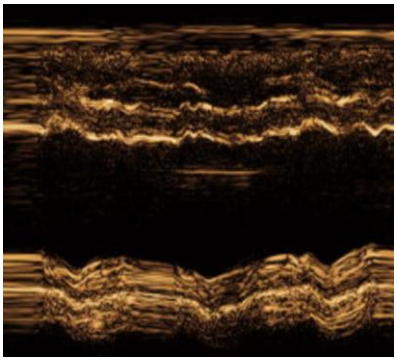
RECOMMENDATIONS

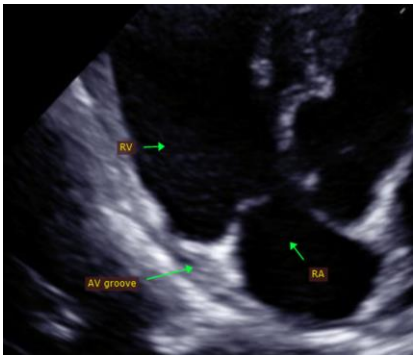
- Consider Pimobendan as discussed: 0.3mg/kg PO q12h.
- Consider a thorough diet history/thyroid level as discussed.
- Institute a taurine supplement, 1000mg PO q12h.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Anesthetic risk is considered moderate 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. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

IMAGES





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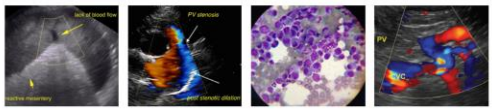

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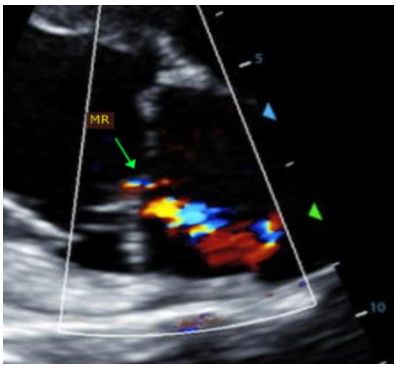

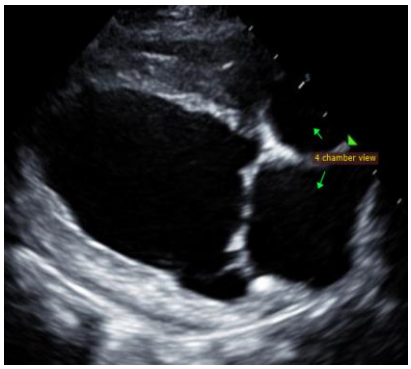

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)