


**PATIENT PRESENTING CLINICAL SIGNS**

**Greta Miller** History: Greta was seen at an ER vet clinic on 8/11/22 and diagnosed with congestive heart failure. Their report indicated cardiomegaly and pulmonary edema was seen on chest rads, that she had a grade 2/6 murmur and arrhythmia, and was started on 50mg oral furosemide BID, 20mg enalapril BID and recommended cardiac work-up. At our clinic, Dr. Wenrich confirmed an arrhythmia late May 2022, but owners declined diagnostics at that time. The diet was documented by the e-vet as a diet with grains (not grain-free). 7.6mg butorphanol was given IV to lightly sedate for the cardiac u/s today. Greta's BP was found to be normal today, ranging from 125/51 (99) to 147/120 (131) mmHg systolic/ diastolic (MAP). On chest rads today, there was no overt pulmonary edema, but the VHS was excessive, 13.5.

**Canine** Abnormal PE/Chem/CBC/UA Results: Lyme and Anaplasma-positive results in late May 2022 (also previously tested positive for both in 2020, Lyme positive back to 2015). AlkP was moderately elevated late May at 682, rest of lab work normal.

**Weimaraner**

**SEX**

Spayed female

**AGE**

9 years

**WEIGHT**

83.3 lbs

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

The echocardiogram in this patient presented volume overload of the left atrium and left ventricle and hypocontractility. Mitral insufficiency was noted, yet Doppler fall out was an issue. The deep pulmonary artery appeared to have a holosystolic flow. This could be related to PDA. Further Doppler evaluation is warranted with spectral Doppler. Persistent arrhythmia was noted. The right atrium and auricle revealed normal size, structure and content. No evidence of masses was noted. Tricuspid valvular assessment demonstrated adequate linear morphology and kinesis. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness.

**INTERPRETED BY**

 Eric Lindquist, DMV  
 DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. McFeely

**HOSPITAL NAME**

Straley VA

**REFERRING VET**

Dr. McFeely

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT			NM	2.0			0.8
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	LA (2D short axis Base view) (cm)	LVIDd (Avg; 2D and m-mode short axis) (cm)	LVIDs (Avg; 2D and m-mode short axis) (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT		1.5	0.7	83.3 lbs	7.2	7.9	

**INVOICE**

32756

**DATE**

9/6/22

**ULTRASONOGRAPHIC FINDINGS**

Volume overload of the left heart.

Mitral insufficiency.

Myocardial insufficiency.

Persistent arrhythmia.



**PATIENT**

Greta Miller

**SPECIES**

Canine

**BREED**

Weimaraner

**SEX**

Spayed female

**AGE**

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**WEIGHT**

83.3 lbs

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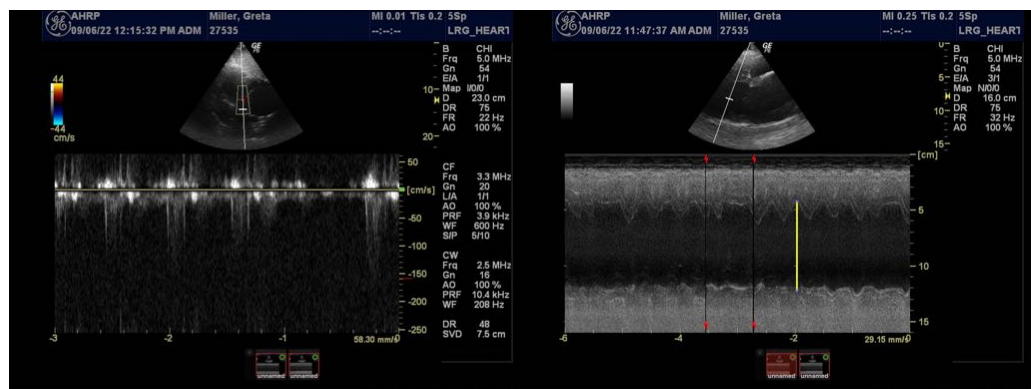
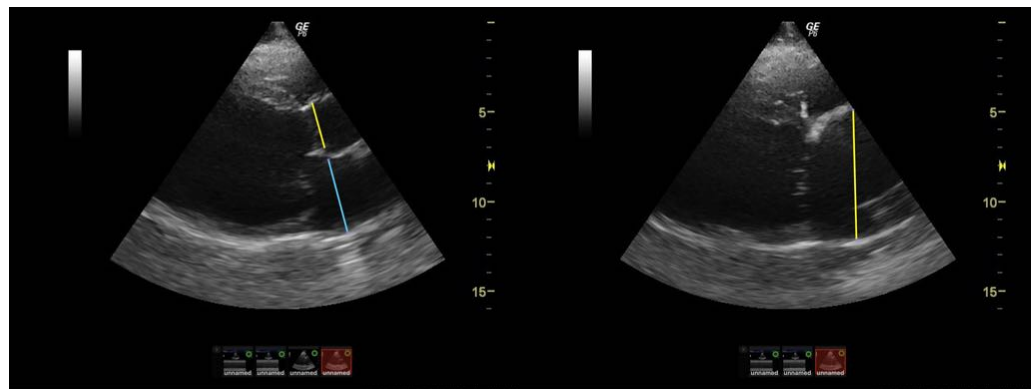
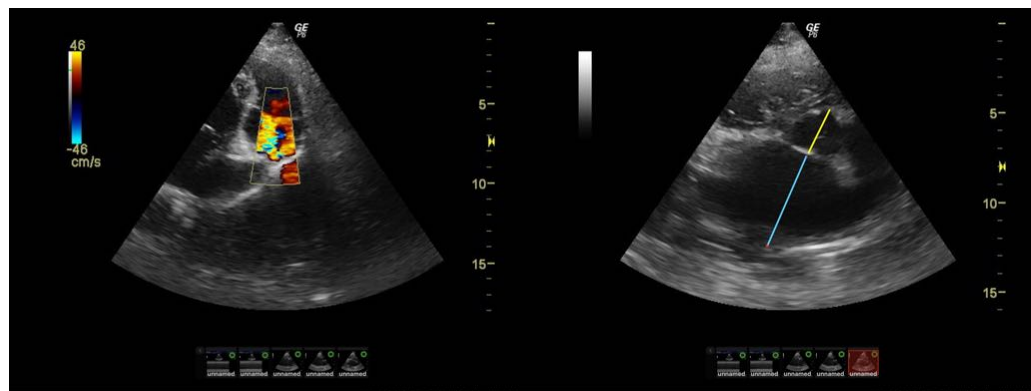
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Further definition of the deep pulmonary artery with color flow and continuous wave Doppler is recommended to assess for potential chronic underlying PDA. Assessment of the patient's history is recommended to see if a murmur has been present the patient's entire life. I cannot define the turbulence noted in the post valvular portion of the pulmonary artery. I recommend adding Pimobendan to the current protocol at 0.3 mg/kg b.i.d. and Spironolactone at 1-2 mg/kg b.i.d. Taurine levels and cardiac nutraceuticals are indicated. Underlying Lyme myocarditis cannot be ruled out as a potential.





**PATIENT**

Greta Miller

**SPECIES**

Canine

**BREED**

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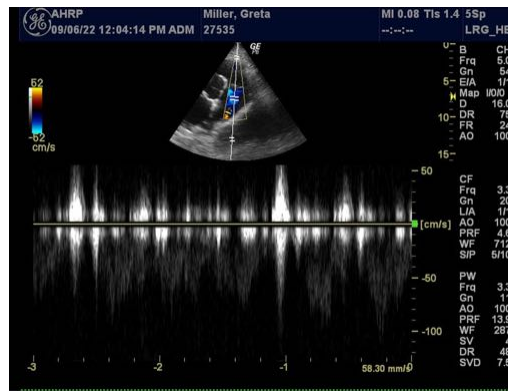
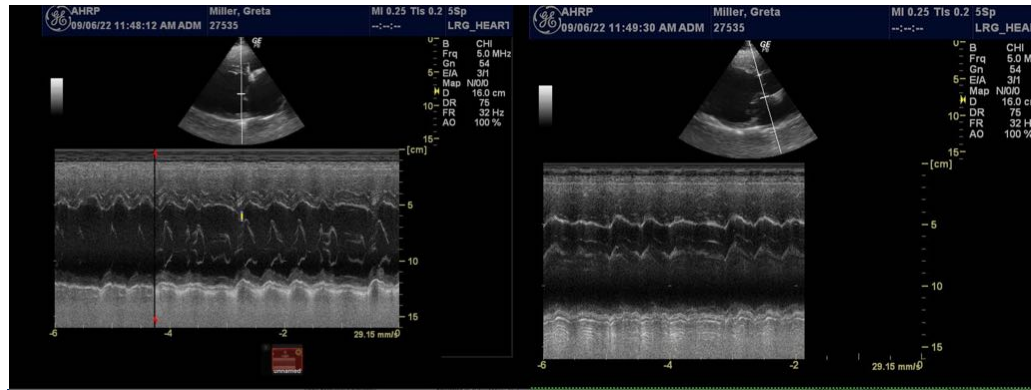
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Eric Lindquist, DMV  
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology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

**IMAGING PERFORMED BY**

Dr. McFeely

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

**HOSPITAL NAME**

Straley VA

**Eric Lindquist**, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
info@SonoPath.com

**REFERRING VET**

Dr. McFeely

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**DATE**

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