



PATIENT

Scarlet Guglielmo

SPECIES

Canine

BREED

Weimaraner Mix

SEX

FS

AGE

8yr

WEIGHT

62.4lb

PRESENTING CLINICAL SIGNS

Grade II-III/VI heart murmur, tachycardia, heart enlarged on x-ray, coughing, sig. alkp elevation, distended abdomen.

Current meds: Tussigon 1T q8-12h, Doxy 100mg 1.5 T bid; Lasix 50mg bid

Abnormal PE/Chem/CBC/UA Results: ALT 164, ALP 1, 994, RETICS 160.9; MPV 15.1; USG 1.011, PH 7.5

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART

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	<1.3	28-40	40-100	<0.6
PATIENT	5.1			2.3	19.2	38	0.96
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	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				
PATIENT	NM	1.5	1.4		5.2	5.1	

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY

Shari REffi CVT

HOSPITAL NAME

ACC Flanders

REFERRING VET

Dr. Hallihan

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Cardiac Presentation

Moderate to significant LV dilation with diminished systolic function was present. Increased EPSS and increased LV sphericity was present. Subjective decreased LV wall thickness was noted. The LA appears moderate to significantly enlarged. The mitral valve appears mildly thickened with no obvious prolapse. Mild primarily centralized mitral regurgitation was present. The tricuspid valve was sonographically normal. The RA/RV were normal in volume. No overt TR was noted on Doppler. The aortic valve was normal with normal measured outflow velocity. No aortic insufficiency. The pulmonary valve was normal with normal measured RVOT outflow velocity. No obvious pulmonic insufficiency.

No pericardial or pleural effusion. No obvious cardiac tumors were visualized. Subjective tachycardia was present.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 4 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the



PATIENT	cortex with no evidence of pelvic dilation. The left kidney measured 6.6 cm in length. The right kidney measured 6.4 cm in length.
Scarlet Guglielmo	The area of the aortic trifurcation was free of pathology.
SPECIES	Adrenal Glands
Canine	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.78 cm width at the caudal pole and 3.0 cm length. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.77 cm width at the caudal pole and 2.7 cm length.
BREED	Spleen
Weimaraner Mix	The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.
SEX	Liver/Gallbladder
FS	The liver exhibited generalized enlargement with symmetrical capsule contour and mild non-homogenous parenchyma. Multiple primarily discrete non-disruptive mildly hypoechoic nodules were present, an example measuring 0.84 cm in diameter. Overtly normal vascular volume was present. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content with mild non-organized echogenic debris. The cystic and common bile ducts were normal.
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8yr	Transdiaphragmatic view revealed comet tail lung pattern, which is echogenic sound wave interface with microconsolidations within the caudal lung field. The lung field should not be visualized by sonogram unless pathology is present. Chest radiographs are recommended to rule out alveolar/lung disease such as neoplasia, thromboembolic disease, chronic inflammatory disease with microconsolidation.
WEIGHT	Gastrointestinal
62.4lb	The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.
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Shari REffi CVT	The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.
REFERRING VET	Normal visible colon wall layers were present with apparent formed feces in lumen.
Dr. Hallihan	Pancreas
INVOICE	The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.
13686ag	Free Abdomen
DATE	No omental masses, overt lymphadenopathy or peritoneal effusion was present.
05/02/2023	ULTRASONOGRAPHIC FINDINGS



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- Moderate to significant LA/LV enlargement.
- LV hypocontractility.
- Centralized MR.
- Tachycardia.

SPECIES

Canine

- Non-congestive hepatomegaly with non-uniform discretely nodular parenchyma-suspect vacuolar hepatic changes, potential primary or concurrent inflammatory hepatopathy, discrete areas of hyperplasia, hematopoeis or similar. Infiltrative neoplasia cannot be excluded yet is thought less likely.

BREED

Weimaraner Mix

- Gallbladder debris (non-mucocele).
- Transdiaphragmatic comet tail lung pattern.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

SEX

FS

The cardiac presentation is consistent with DCM like cardiomyopathy which may be primary in nature or secondary to taurine deficiency, hypothyroidism, myocarditis, tachycardia induced cardiomyopathy or infiltrative disease such as lymphoma. In a middle aged to older large breed dog, DCM is a reasonable primary diagnosis. Correlation with diet history, thyroid status +/- troponin levels is recommended. The left heart changes predispose to left sided congestive failure while the tachycardia may predispose to right sided failure although no evidence of current right heart failure is present at this stage. Potential multifactorial cough is possible secondary to mainstem bronchi irritation secondary to degree of LA enlargement and CHF or possible concurrent primary lower airway disease.

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Correlation with three view chest radiographs is suggested if not done. ECG to assess for tachycardia or for concurrent atrial fibrillation is recommended.

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(Canine and Feline)

Pimobendan 0.3 mg/kg PO BID, combination Lasix/spironolactone both 1-2 mg/kg PO BID, rate control therapy pending ECG and as needed respiratory support is warranted. Monitoring of renal parameters as well as system BP is suggested. ACE inhibitor medication is suggested if systemic BP is >130 (not advised if systemic BP is <130).

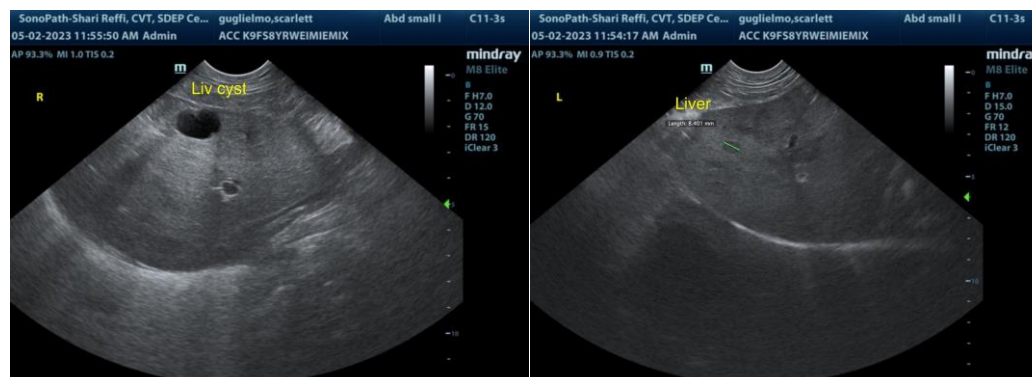
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A guarded long term prognosis is indicated with serial sonographic monitoring required. Recheck echocardiogram recommended in 3-4 months, sooner if clinically indicated.

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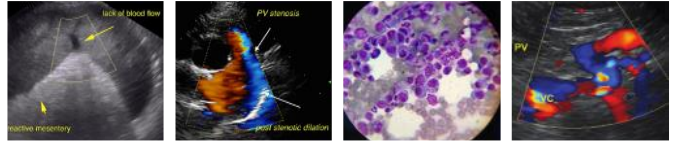
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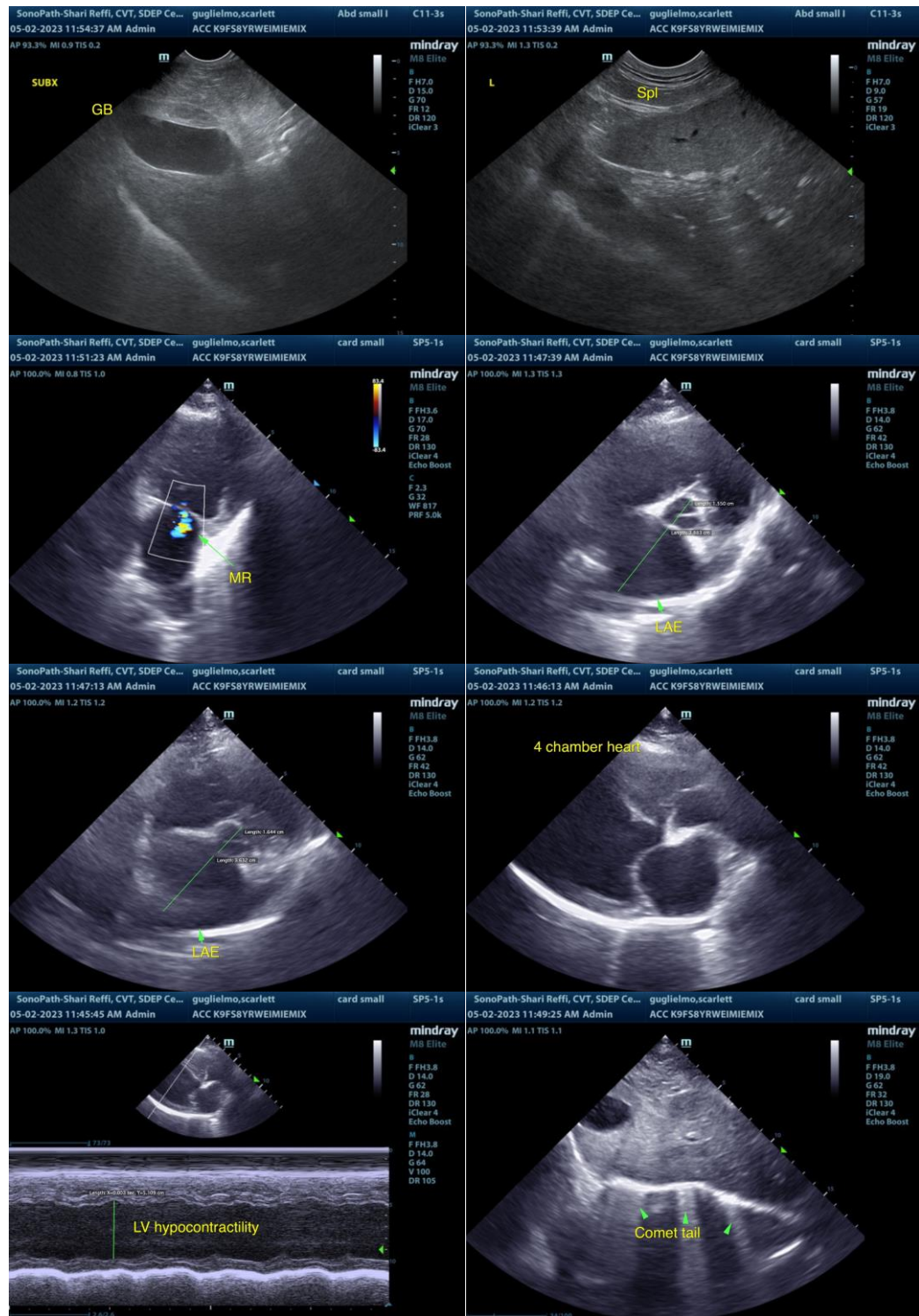
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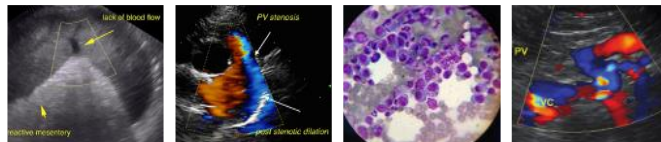
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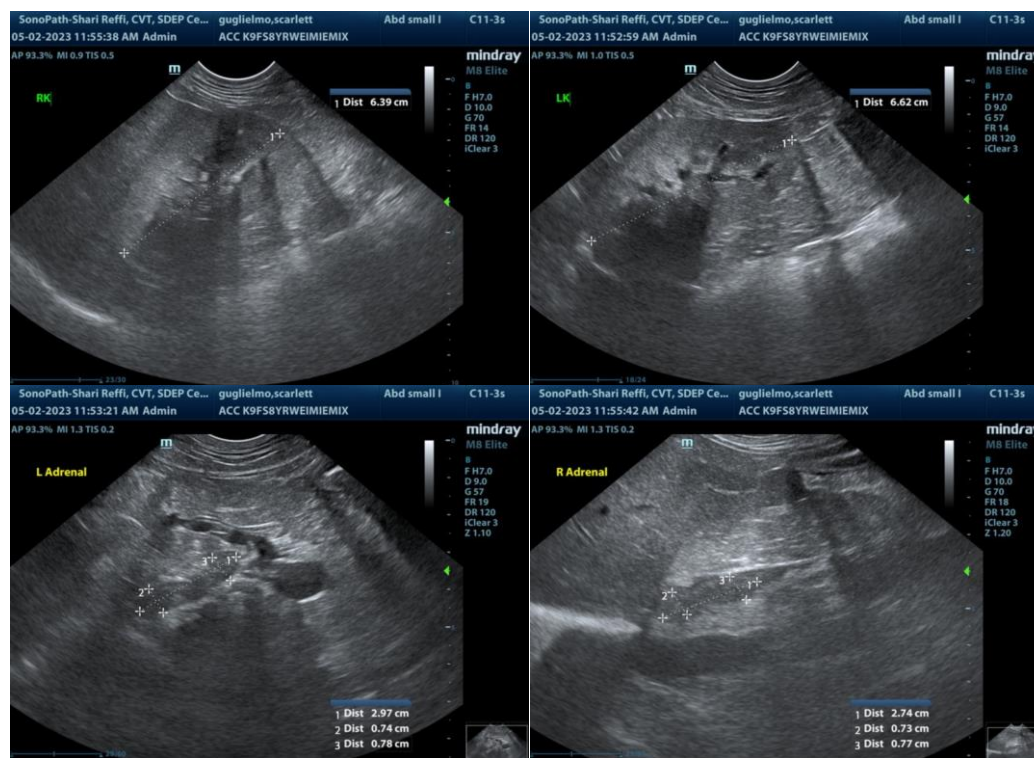
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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