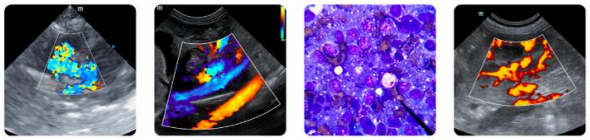


PATIENT

Whiskey Ferraro

SPECIES

K9

BREED

English Springer Spaniel

SEX

FS

AGE

11

WEIGHT

45

INTERPRETED BY

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

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway Animal Hospital

REFERRING VET

Dr Dubos

INVOICE

75144

DATE

5-27-26

PRESENTING CLINICAL SIGNS

Enlarged heart on CXR worsening anemia HCT 40.7 (2/26) increased (5/26) 35.8 Hx of splenectomy (benign)
Abnormal PE/Chem/CBC/UA Results: HCT 35.8 MCHC 38.5 HGB 13.8 Basophils 0.16

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT			NM	1.42	31	60	0.86
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT**	**LAD** LA MAX 4 Chamber	**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	1.2	0.7	45	3.7	4.3	

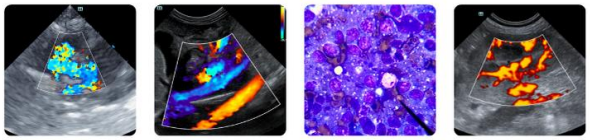
Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on based on 2 different LA measurement methods. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole. No significant dystrophic or vegetative changes were noted. Centralized MR on Doppler. The **left ventricle** demonstrated mild excessive volume (LVIDd measurement below). Ventricular function was adequate to borderline subnormal as evidenced by the fractional shortening measurement. Normal LV wall thickness and myocardial echogenicity. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Pulmonic insufficiency measuring 1.5 m/s on Doppler. No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial regions** were free of masses in the visible window. Possible bradycardia.

Urinary System

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

No evidence of pathology in the area of the aortic trifurcation.



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Normal size and margination was present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 5.6 cm in length. The right kidney measured 5.6 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.54 cm width at the cranial pole. A subtle hyperechoic, nonmineralized, nondisruptive nodule was present in the cranial left adrenal gland. The nodule did not exhibit signs of vascular invasion. The nodule measured 0.7 x 0.56 cm.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.52 cm width at the cranial pole.

Spleen

The spleen was not visualized owing to previous splenectomy.

Liver/ Gallbladder

The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion.

The gallbladder was non-distended in size with thin walls and mild nonorganized gallbladder debris. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty without evidence of retained ingesta, fluid, or foreign material.

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.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

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 were evident.

Free Abdomen

No evidence of ascites or significant omental lymphadenopathy.

ULTRASONOGRAPHIC FINDINGS

- Normal LA
- Mildly increased LV dimension and borderline to mild subnormal LV systolic function.

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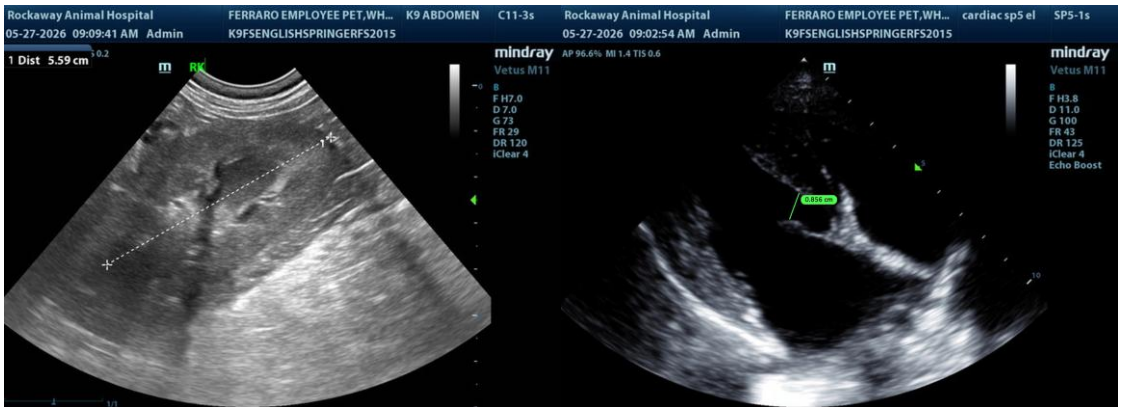
- Centralized MR.
- Normal RA/RVE, mild pulmonic valve insufficiency.
- Possible bradycardia.
- Mild age related renal changes.
- Subtle cranial left adrenal nodule - suspect adenoma.
- Absent spleen - previous splenectomy.
- Non congested hepatomegaly - suspect benign.
- Mild nonorganized gallbladder debris (nonmucocele).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Emerging DCM phenotype is a concern of this patient although overall the heart appears to be stable given the lack of concurrent LA enlargement. This may be primary in nature or secondary to conditions such as taurine deficiency, hypothyroidism, myocarditis, or less likely infiltrative disease such as lymphoma. No evidence of cardiac tumors given the patient's history. Further assessment with diet history, T4 level/troponin level, if not done, could be considered. Given the lack of LA enlargement and no reported clinical signs, overt indication for medical therapy is not obvious. If non reported cardiac clinical signs i.e. exercise intolerance, etc., Pimobendan trial 0.3 mg/kg BID is warranted. No evidence of clinical pulmonary hypertension. Cardiac monitoring indicated for further assessment and prognosis. Recheck echo suggested in 6 months or sooner if clinically indicated. Correlation with ECG is recommended. Cardiac anesthetic risk at least moderate with elective anesthesia not advised pending further assessment.

Correlation with liver enzyme evaluation and consideration for hepatosupportive medications if evidence of hepatopathy or cholestasis is recommended.

Concurrent sonographic monitoring of the left adrenal nodule for evidence of progression and periodic assessment of systemic BP is recommended.



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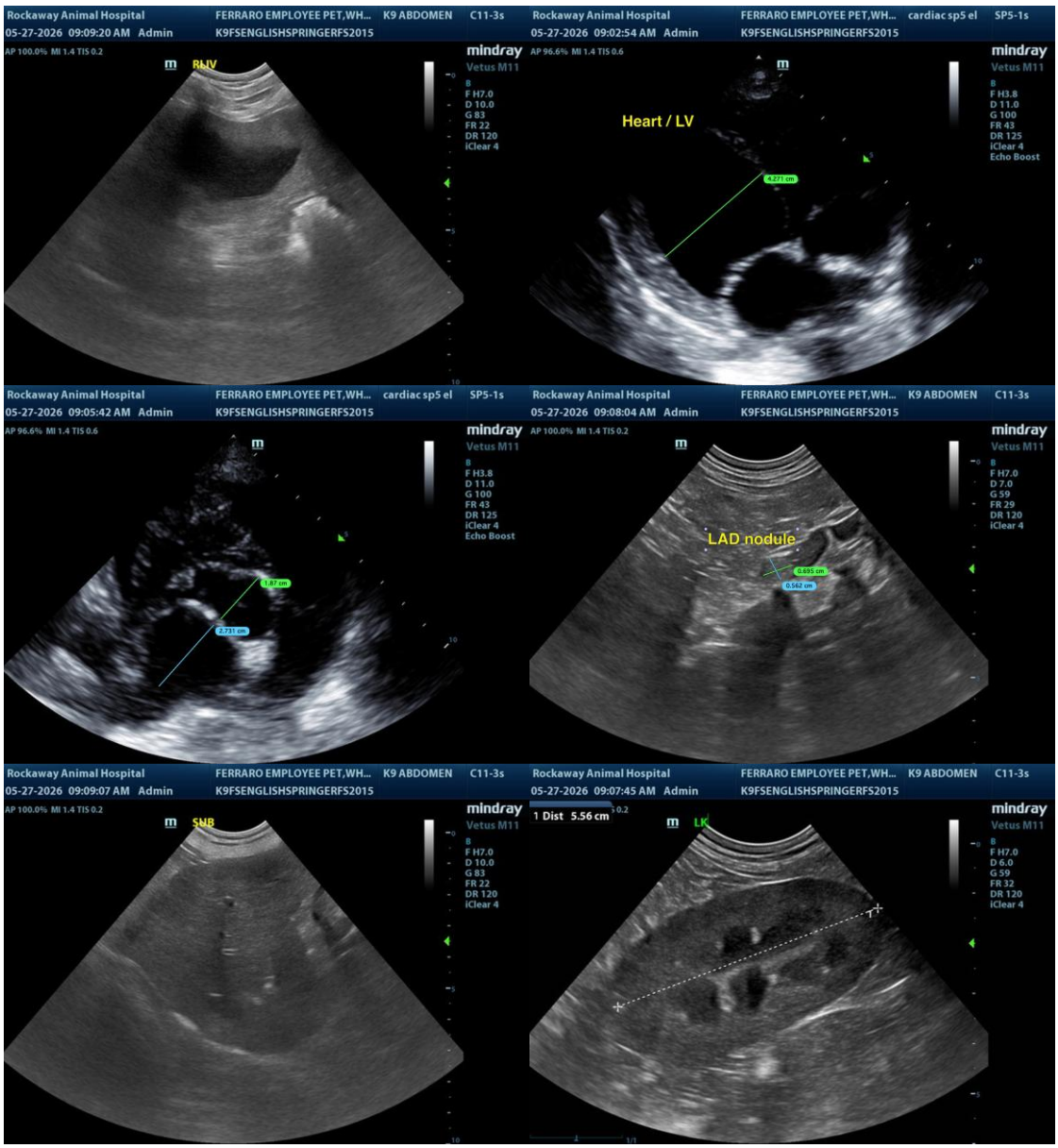

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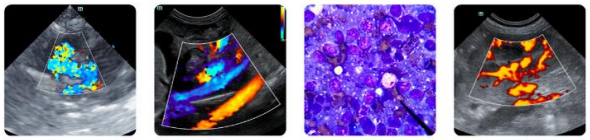

Clinical Sonography & Telecytology
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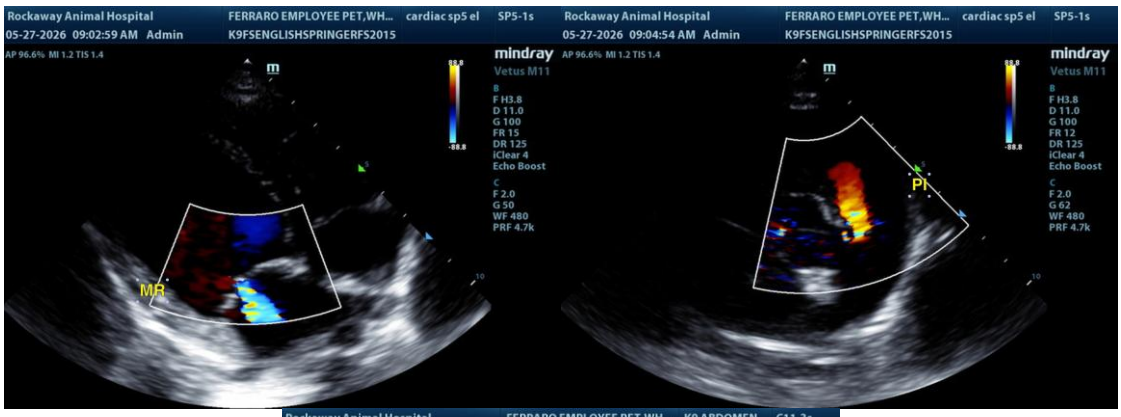

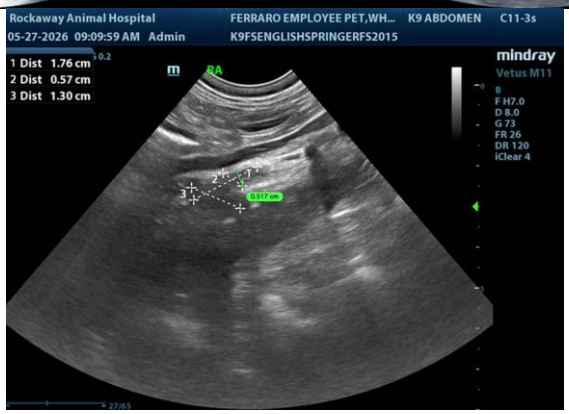

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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info@sonopath.com