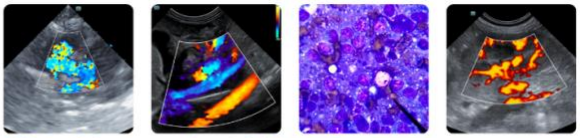

PATIENT

Lucy Scarola

SPECIES

Feline

BREED

DSH

SEX

Spayed Female

AGE

15 Years 1 Month

WEIGHT

10.6 pounds

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

IMAGING PERFORMED BY

Rebecca Hamilton

HOSPITAL NAME

Newton Veterinary Hospital

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Dr. Hipkin

INVOICE

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PRESENTING CLINICAL SIGNS

Tachypnea, suspect pleural effusion, abnormal pro BNP , grade 5/6 HM (new) wheezes, suspected cranial mediastina mass on rads. Meds: Lasix 1mg/kg IV @ 2:45 pm

Abnormal PE/Chem/CBC/UA Results: BUN 40.3, Creat 1.5 (N) Na 158, HCT 29.1, HGB 9.3, RBC 6.16

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

FELINE CARDIAC PARAMETERS	**BODY WEIGHT** (lbs)	**HR** (BPM)	**IVSd** (cm)	**LVIDd** (cm)	**LVWd** (cm)	**FS** (%)	**EF** (%)
NORMAL PARAMETER	------	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	10.6	212	0.55	1.77	0.50	54	85
FELINE CARDIAC PARAMETERS	**LA/AO** (M-mode)	**LA/AO HEART BASE** (Sisson)	**LAD** LA MAX 4 Chamber		**LVOT VEL.** (m/s)	**RVOT VEL.** (m/s)	**IVRT** (m/)
NORMAL PARAMETER	<1.5	1.6	0.7-1.7		<1.6	<1.3	40-60
PATIENT	--	1.55	1.5		1.0	0.7	NM
Adapted from June Boon,Veterinary Echocardiography,1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							

Cardiac Presentation

The echocardiogram in this patient demonstrated borderline to mild increased **left atrial** dimension and structure. The cranial and caudal **mitral** valve leaflets presented mild thickening with eccentric MR on doppler. The **left ventricle** presented normal free wall and septal thicknesses with linear contour. The **myocardium** presented some mild echogenic remodeling consistent with expected age-related change and suspect mild fibrosis. **Contractility** of the ventricular walls was adequate and in normal range for this breed and patient size. The **left ventricular outflow** tract demonstrated normal laminar flow with subjectively unremarkable structure. Subjective assessment of the **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated expected findings for this age patient. The **right ventricle** was of normal size (1/3 diameter of LV), echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible **pericardial** effusion with mild volume pleural effusion was noted. Significant pericardial and transdiaphragmatic pulmonary comet tail artifact with asymmetrical pulmonary serosal surface contour. Visualization of the cranial mediastinum was limited owing to significant pulmonary artifact. No overt arrhythmia was present.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 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 change were noted.

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The area of the aortic trifurcation was free of pathology.

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 moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 3.7 cm in length. The right kidney measured 3.9 cm in length.

Adrenal Glands

No obvious pathology in the areas of the left or right adrenal glands.

Spleen

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. The spleen measured 0.70 cm width level of the mid spleen.

Liver & Gallbladder

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mild / moderate nonuniform and hypoechoic to the spleen with a mild/ moderate coarse echotexture and subjective mild to benign parenchymal remodeling. 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. The cystic and common bile ducts were normal. No evidence of wall edema.

Gastrointestinal

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.

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 right pancreas exhibited normal size with asymmetric capsule contour and mild irregular hyperechoic parenchyma exhibiting indistinct discrete hypoechoic right pancreatic limb nodules.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Mitral valve regurgitation with borderline/mild increased LA dimension.
- Mild tricuspid regurgitation- estimated pulmonary pressure gradient not overtly consistent with significant or clinical pulmonary hypertension.

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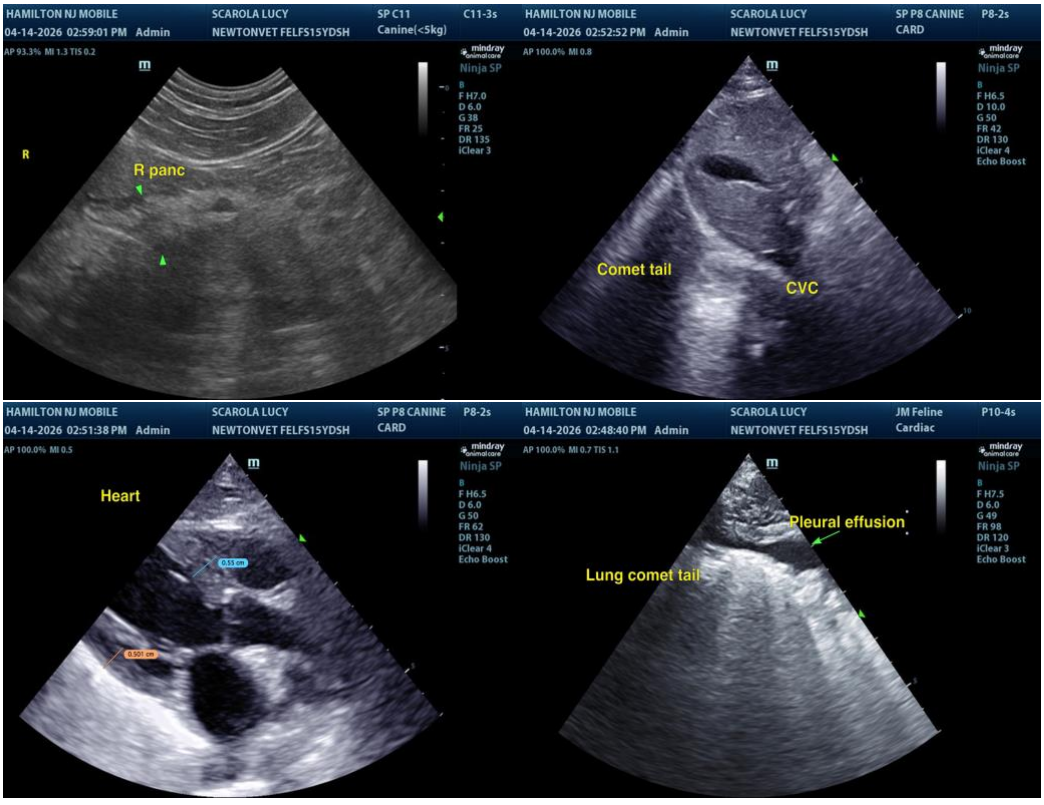
- Severe pericardial and transdiaphragmatic pulmonary comet tail artifact with mild volume pleural effusion.
- Noncongested liver.
- Bilateral chronic renal changes.
- Suspect chronic pancreatitis/fibrosis and indistinct discrete right pancreatic nodular hyperplasia.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

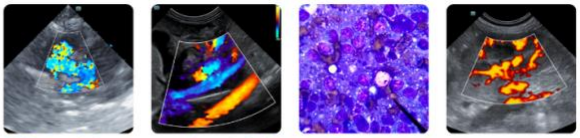
The borderline/mild increased LA dimension indicates that the current and future risk of complication secondary to MR at this stage is mildly increased yet no overt evidence of significant left or right heart chamber enlargement which would be compatible with congestive heart failure. Although cardiogenic pleural effusion cannot be definitively excluded, it appears less likely based on this cardiac exam with non-cardiogenic effusion secondary to primary pulmonary or intrathoracic disease probable.

Correlation with effusion analysis cytology +/- culture and sensitivity is recommended for further clarification. A Lasix trial 1.0 to 2.0 mg/kg PO BID with close monitoring of renal parameters and concurrent respiratory support would be appropriate. A cranial mediastinal lesion cannot be definitively excluded given lack of visualization secondary to significant pulmonary artifact.

Thoracic CT may be indicated. No obvious evidence of significant abdominal visceral pathology i.e. neoplasia as a potential contributing factor. Correlation with a spec fPL is recommended.



New Jersey Mobile
FUELED BY SONOPATH VETERINARY ULTRASOUND



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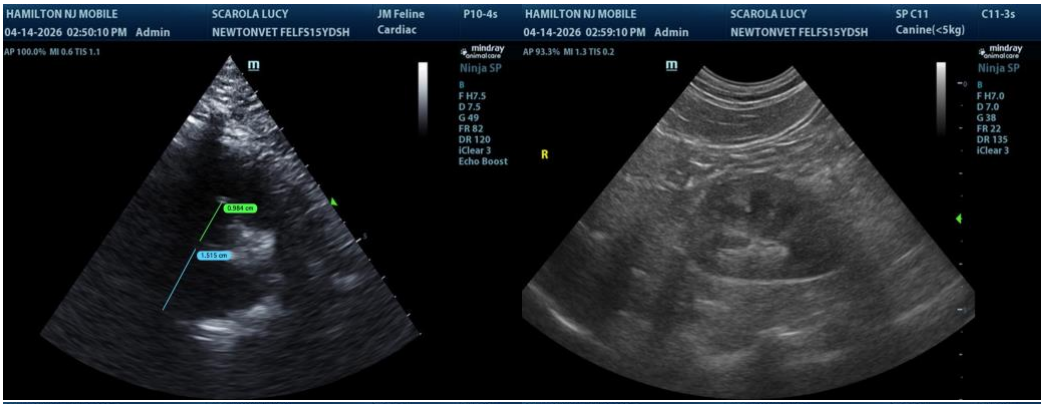

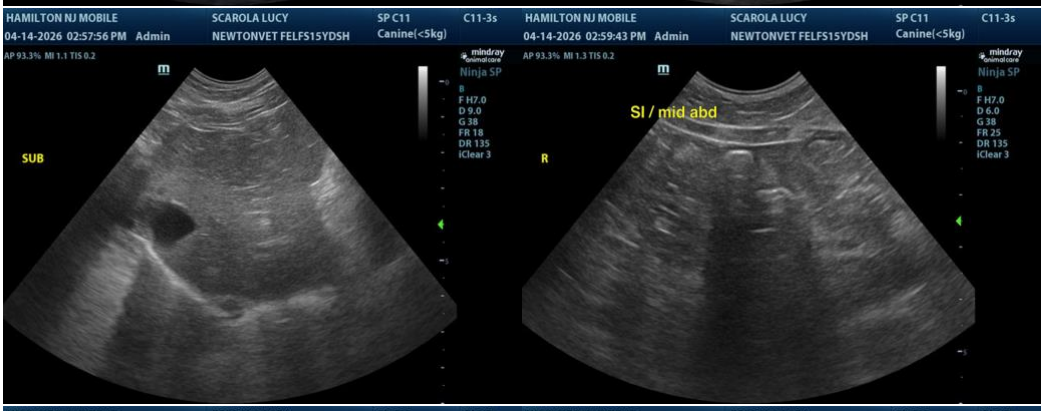

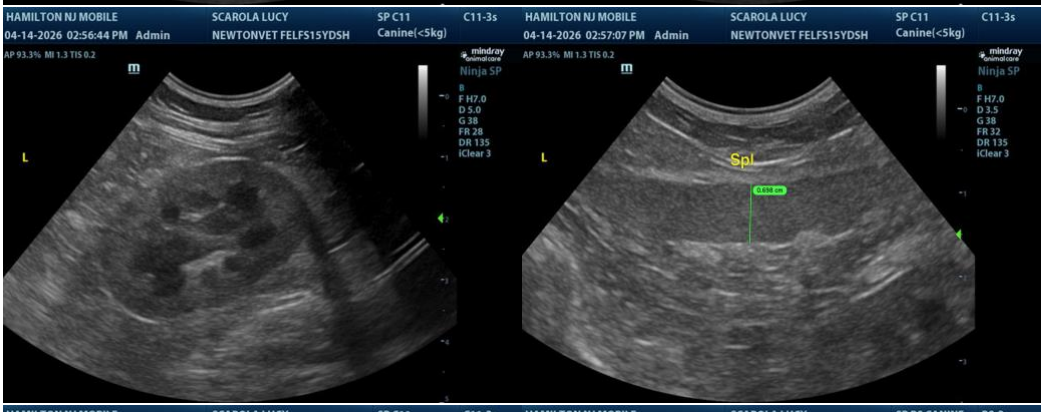

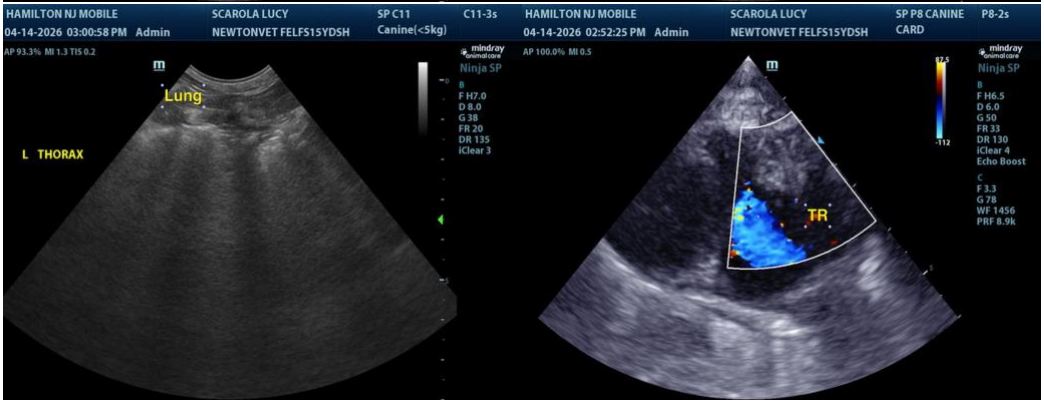

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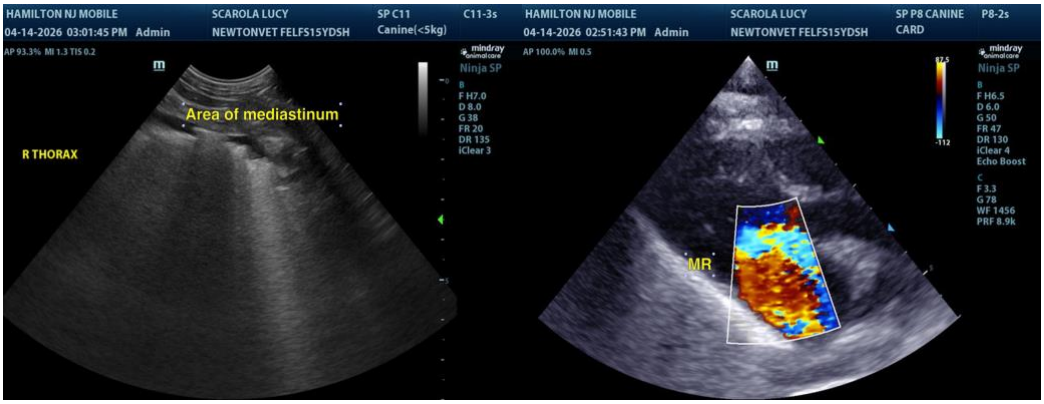

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com