PATIENT

Rexford Lugert

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

18 Years

WEIGHT

12.9 lbs

INTERPRETED BY

Eric Lindquist, DMV, DABVP(CFM), Cert. IVUSS

IMAGING PERFORMED BY

Rebecca Hamilton

HOSPITAL NAME

Newburgh Veterinary Hospital

REFERRING VET

Dr. Moosmoeller

INVOICE

16614

DATE

05/29/26

PRESENTING CLINICAL SIGNS

Persistent hematuria w/ no urinary signs, mild inc. BUN, hypertension, heart murmur 3/6, Retinal Detachment. Meds: Amlodipine 0.625mg PO BID

Abnormal PE/Chem/CBC/UA Results: BUN 47, Na/K ratio 43, PSL 62, negative urine culture 4/23/26, Urine: SG 1.015, 2+ blood, 4-10 RBC

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

FELINE CARDIAC PARAMETERS	**BODY WEIGHT**	**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	12.9 lbs	NM	0.43	1.62	0.47	57	90
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	1.1	--	--		1.2	1.1	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							

E-wave V: 0.9 // EPSS: 0.1

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented normal thicknesses with linear contour and was not dilated nor restricted. Some myocardial remodeling was noted. **Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions and angles of the myocardium. 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 and kinetics. 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). No visible **pericardial** or free pleura fluid was noted or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

Urinary System

The **urinary bladder**, trigone, and pelvic urethra to a depth of 2.0 cm presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized,

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and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **left kidney** revealed multiple cortical infarcts with normal size and blunted cranial/caudal poles measuring 3.5 cm in length. Blood flow was significantly subnormal.

The **right kidney** presented with similar changes to the left kidney with subnormal size measuring 2.8 cm in length. Cortical remodeling and subnormal blood flow were also present.

Adrenal Glands

The **right adrenal gland** was visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 0.4 cm width.

The **left adrenal gland** was enlarged, hypoechoic and rounded measuring 1.2 cm width without evidence of vascular invasion.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

Liver

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some midl to moderate age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal. No overt evidence of active inflammatory, infiltrative or regenerative pathology was noted but should be paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.

Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some mild parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

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ULTRASONOGRAPHIC FINDINGS

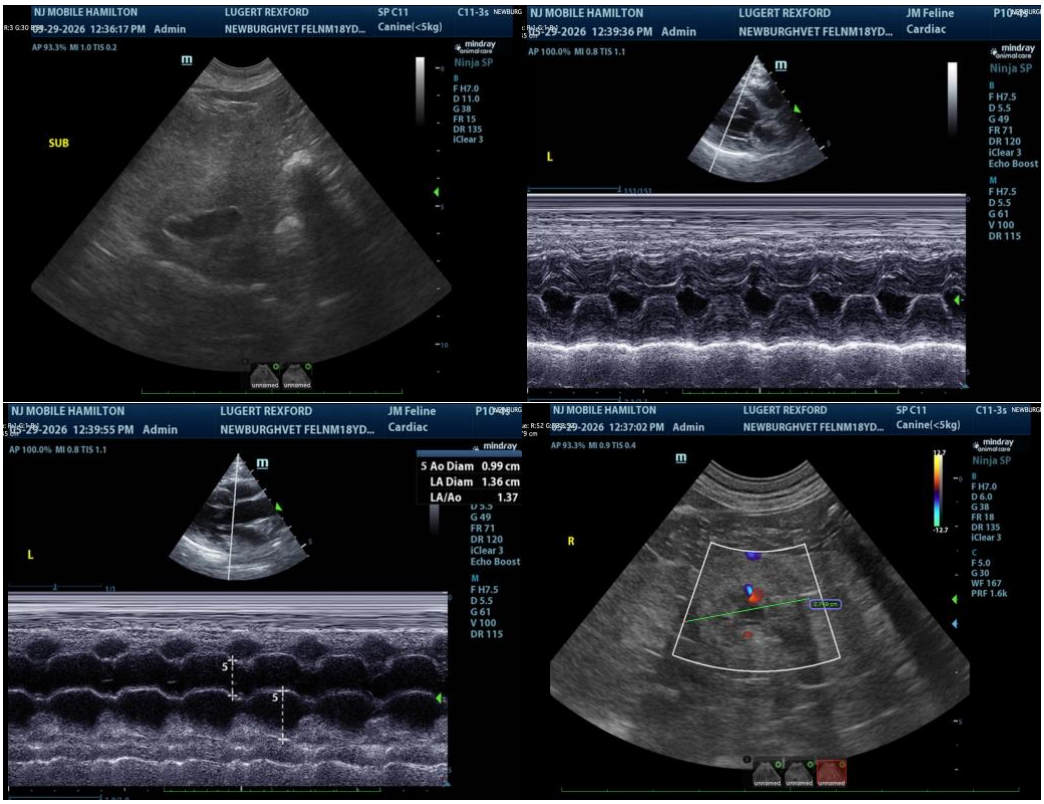
- Enlarged left adrenal gland- strong concern for adenocarcinoma, potential Kahn's syndrome if hypokalemia is an issue.
- Moderate to near end-stage degenerative renal disease with cortical infarcts and remodeling.
- Normal echocardiogram with myocardial remodeling.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Most concerned about renal function in this patient and the left adrenal gland. If hypokalemia is an issue, then aldosterone level is indicated. Recheck sonogram in one month of the left adrenal to assess for further growth. Full urinary workup and blood pressure measurements are indicated, if not already performed. Given the azotemia, 48-72 hour IV fluid protocol is indicated. Strong concern for emerging renal failure. Creatinine should be monitored carefully, as well as BUN and urine-specific gravity if inflammatory sediment. The hematuria may be owing to infarcts that may constantly be occurring.

Internal medicine consult can be utilized through Sonopath.com. You can select the internal medicine drop down at http://spa.sonopath.com/.

One of the world's top internists & SonoPath associate Dr. Remo Lobetti BVSc, MMedVet, PhD, DECVIM can evaluate your case through SonoPath. https://sonopath.com/resources/sonopath-services/internal-medicine-teleconsultation-services



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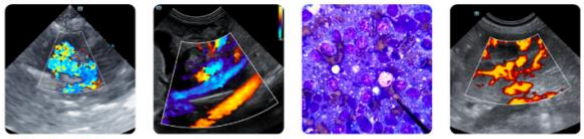

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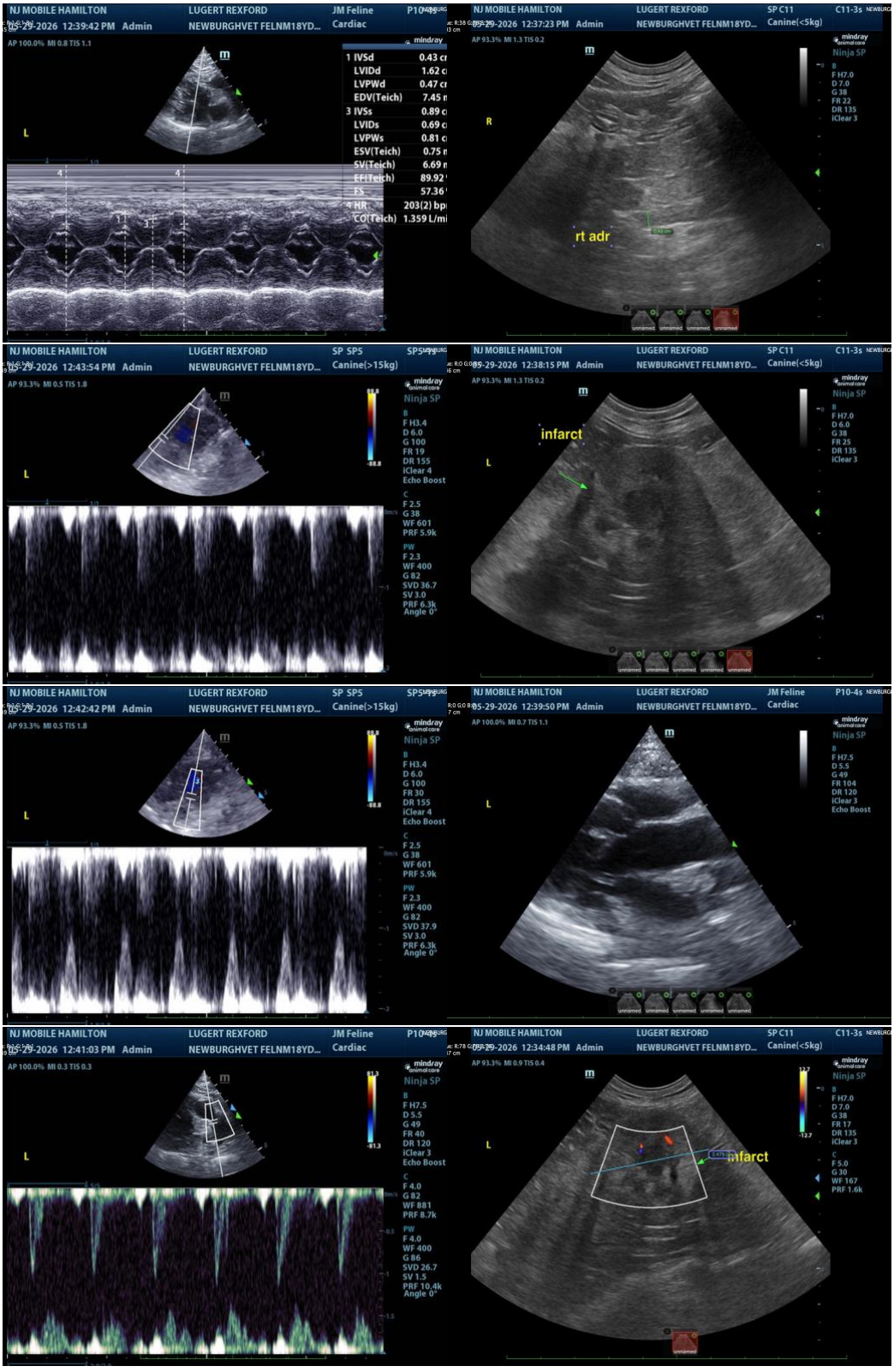

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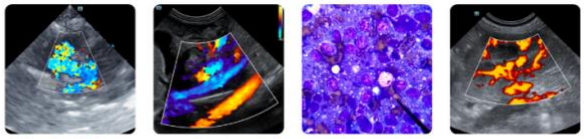

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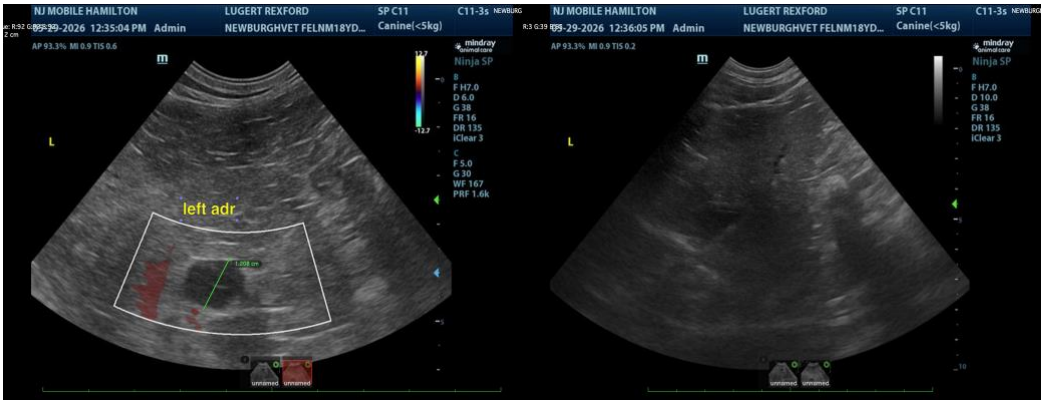

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP(CFM), Cert. IVUSS,

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