



PATIENT

Petunia Regetz

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Spayed Female

AGE

19 years

WEIGHT

4.9 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Animal Care Center of
Flanders

REFERRING VET

Dr. Hallihan

INVOICE

95334

DATE

1/18/22

PRESENTING CLINICAL SIGNS

Azotemia, elevated liver values, anemia, wt. loss, not eating well. Grade III-IV/VI murmur. Prev u/s and cyto report from March and April 2021 attached. Current meds: Prednisolone 5mg 1/2 T sid, Denamarin sid, Pet Tonic Drops 0.5ml bid, SQF 150mls eod, Torb on board for u/s.
Abnormal PE/Chem/CBC/UA Results: WBC 29400, Neut 24990, HCT 18%, Eos 1126, Ast 358, ALT 707, ALKP 248, Bun 161, Creat 4.4, Phos elevated, UPC .0.9, USG 1.012

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** presented a relatively uniform cortical hyperechogenicity when compared to the renal medulla, spleen and liver. No overt masses were noted. Corticomedullary definition was nebulous and the ratio favored the cortex slightly. The ureters were not visible and assumed to be normal. These changes are most consistent with chronic interstitial nephritis yet infiltrative disease could not be entirely ruled out without biopsy though neoplasia is not suspected. Mild irregular contour, cortical remodeling and microinfarcts were noted. The right kidney revealed pelvic mineralization with similar changes to the left. The right kidney measured 3.08 cm. The left kidney measured 4.0 cm. Blood flow to the kidneys was subnormal on power Doppler assessment.

Adrenal Glands

Both **adrenal glands** were 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 0.38 cm.

Spleen

The **spleen** appears to be more quiescent than the prior sonogram and at the upper limits of normal at 1.0 cm.

Liver

The **liver** revealed persistent, multi-focal, nodular changes. The nodular changes appear to be more pronounced than the prior sonogram. The gallbladder wall was mildly thickened with a minor amount of debris.



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Gastrointestinal

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The **gastrointestinal tract** revealed minor variable thickening and echogenic submucosal changes most consistent with low grade end result of chronic GI disease such as IBD and may be related to malassimilation of nutrients if any weight loss is present. No obvious neoplastic patterns were noted and luminal content as unremarkable.

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Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some 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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Free Abdomen

Trace amounts of free fluid were noted.

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ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated normal internal volumes with a trace amount of pericardial effusion. Left ventricular myocardial remodeling was noted. The contractility was adequate. The mitral valve was mildly thickened with a slight prolapse and minor insufficiency. The right atrium was unremarkable. Slight tricuspid insufficiency was noted. Comet tail lung pattern was noted in the extracardiac space/lung fields.

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FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	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		197	0.51	1.58	0.57	44	79
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Sisson)	LA 2D 4-chamber long axis AS to FW (Sisson) (cm)	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m)	
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60	
PATIENT	1.23	1.47	1.7		1.04	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							



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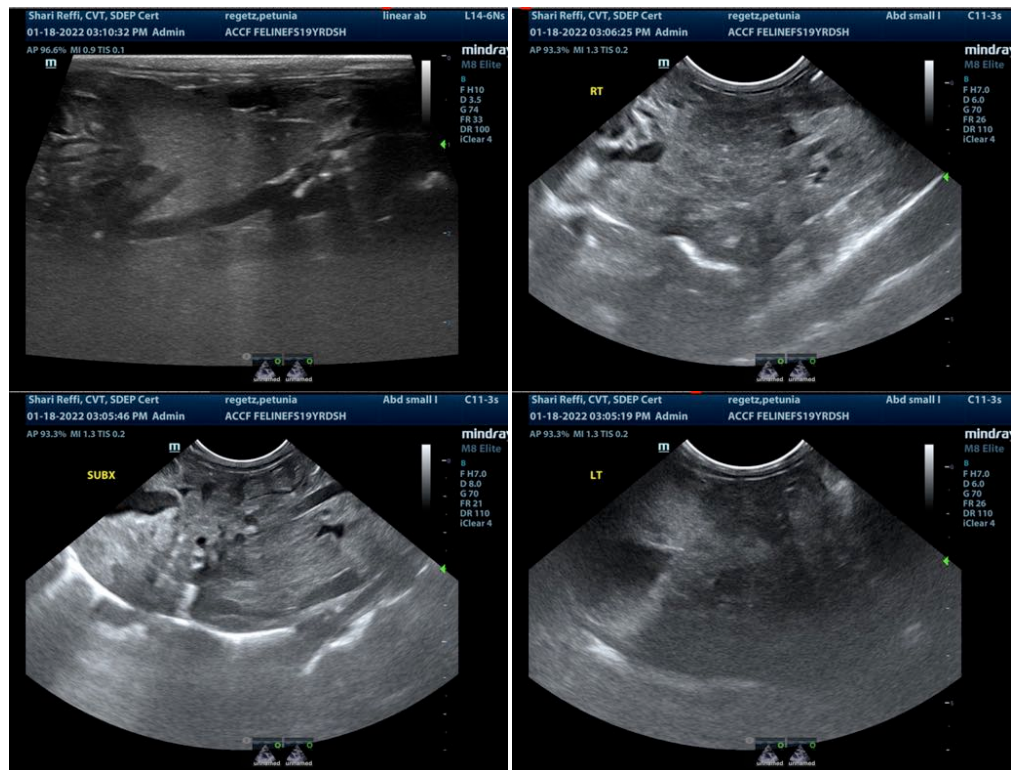
ULTRASONOGRAPHIC FINDINGS

Geriatric heart with non-cardiogenic, minor pericardial effusion, mitral valve prolapse and insufficiency. Chronic, subjectively end stage degenerative renal disease, interstitial nephrosis pattern.

Persistent nodular hepatic changes.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The pericardial effusion in this type of presentation may be owing to systemic inflammation such as cachexia or occult neoplasia are possible. I am most concerned about the kidneys in this patient with the anemia and chronic azotemia. Cholangiohepatitis, nodular hyperplasia is likely the explanation for the liver. however, conversion to neoplastic event from the prior sampling cannot be ruled out. The prognosis is poor long term primarily from the renal presentation as the kidneys appear end stage. CBC path review is warranted regarding the anemia.





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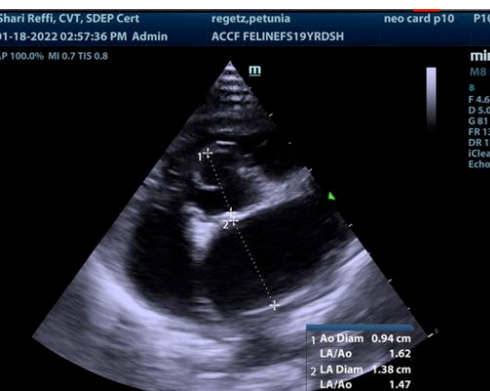
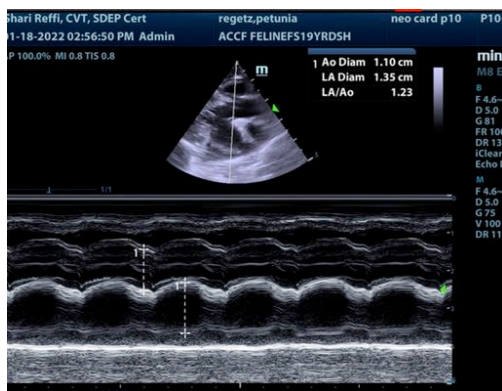
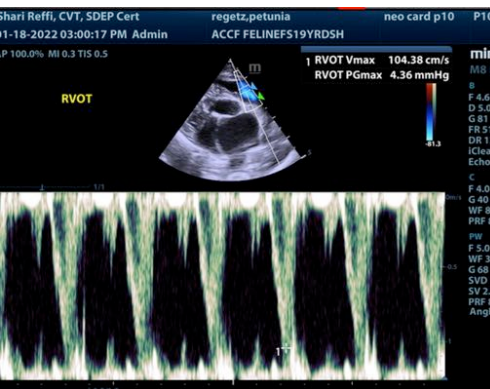
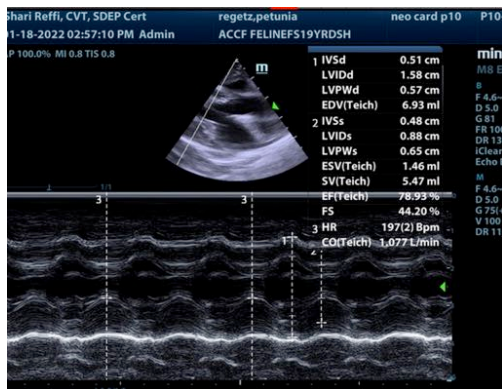
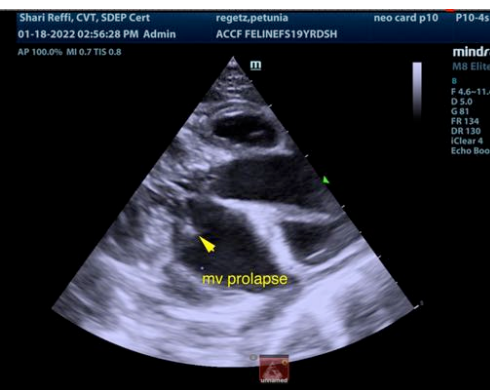
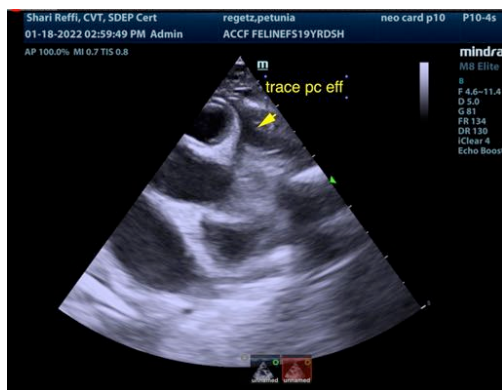
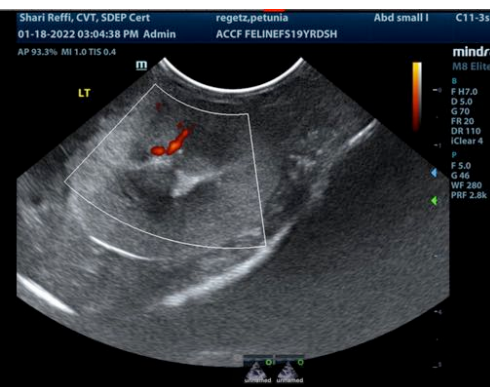
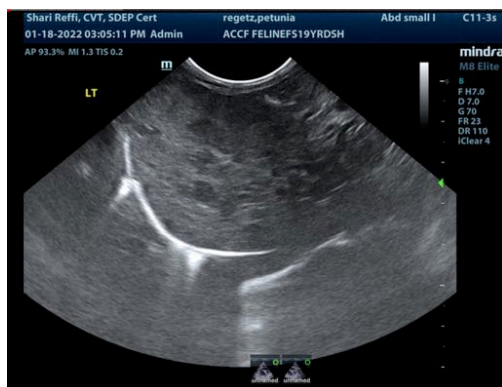
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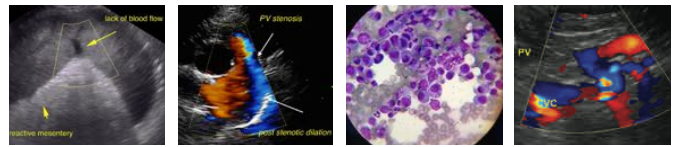
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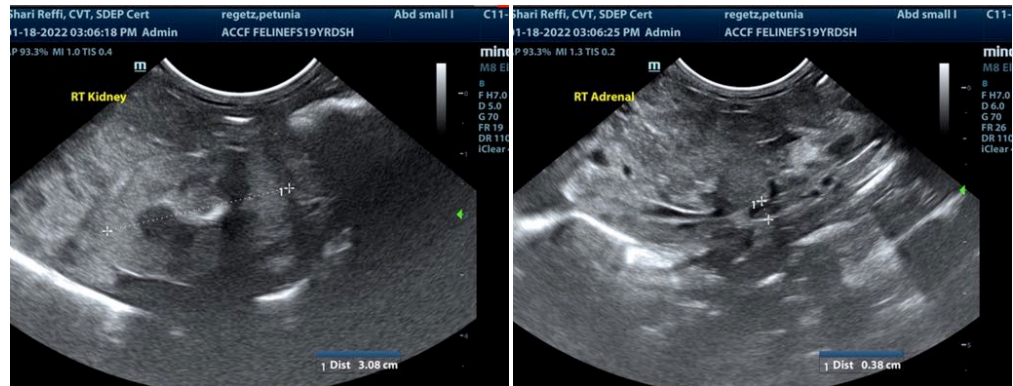
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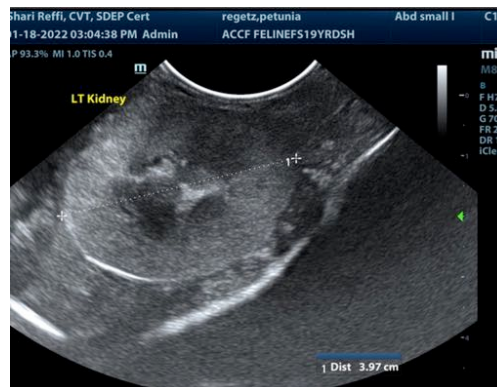
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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, Cert. IVUSS, CEO of SonoPath.com
Info@SonoPath.com