

**PATIENT**

Harley Tashjian

**SPECIES**

Feline

**BREED**

Domestic Shorthair

**SEX**

Neutered male

**AGE**

15 years

**WEIGHT**

6 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. Hargadon

**INVOICE**

91870

**DATE**

9/21/21

**PRESENTING CLINICAL SIGNS**

History: Hx of IBD, diarrhea worsening, recent wt. loss. New III/VI murmur. Current meds: Prednisolone 1.5mg bid  
6/5/21- Elevated wbc, Eos and high normal creat.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. Trivial **mitral** valve insufficiency was noted, yet not clinically significant. The **left ventricle** presented normal thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **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. A trace amount of **pericardial** effusion was noted, this is non-cardiogenic, but may be owing to cachexia or systemic disease.

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	6 lbs	NM	0.67	1.34	0.7	50	80
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	1.31	1.2	1.2 max	1.0	0.98	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							



**PATIENT** **ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

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**Urinary System**

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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.

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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. The right kidney measured 3.52 cm. The left kidney revealed a cortical infarct at the cranial pole and was subnormal in size measuring 2.88 cm.

**AGE**

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**Adrenal Glands**

**WEIGHT**

6 lbs

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 0.4 cm. The left adrenal gland measured 0.49 cm.

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**Spleen**

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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 was noted.

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**Liver**

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The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic duct was mildly tortuous, this is an age related change.

**INVOICE**

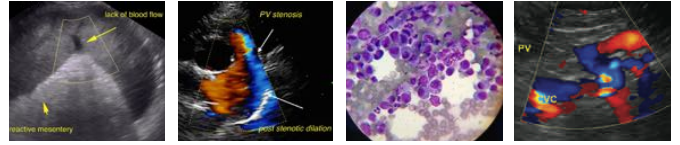
91870

**Gastrointestinal**

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The **gastrointestinal** presentation revealed mild uniform prominence of the gastric mucosa as well as areas of "ropey" small intestinal wall. The muscularis layer was hypertrophied inverting the normal ratio (1:3). The intestinal submucosa was slightly irregular, thickened and hyperechoic suggestive of low grade, chronic inflammation. No evidence of obstruction was present. Chronic inflammatory bowel disease is probable with a low possibility of an early neoplastic event such as lymphoma or, less likely,



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dry form FIP can at times be found on biopsy of these presentations. Full thickness tissue biopsies via open laparotomy, ideally guided by intraoperative ultrasound in order to obtain the most representative mural sample, would be necessary to rule more significant disease than IBD. The mesenteric lymph nodes were reactive. Some reactive mesentery was noted associated with the distal small intestine and the mesenteric lymph nodes.

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**Pancreas**

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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. The left pancreatic limb measured 0.6 cm.

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**ULTRASONOGRAPHIC FINDINGS**

Minor mitral insufficiency, not clinically significant.

Pericardial effusion, non-cardiogenic.

**WEIGHT**

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Minor left ventricular hypertrophy owing to volume contraction, hyperthyroidism, hypertension or benign hypertrophic cardiomyopathy.

Moderate degenerative renal changes with infarcts and slight mineralization.

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Reactive mesenteric lymph nodes.

Tortuous cystic duct.

Age related abdominal changes elsewhere.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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There was no obvious evidence of lymphoma in this patient. Neoplastic criteria is not present in the gastrointestinal tract; however, given the intestinal thickening emerging round cell neoplasia cannot be completely ruled out.

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No cardiac medications are recommended. The prednisolone may be suppressing a more significant presentation. Maldigestion panel, three view chest radiographs and full CNS examination is recommended to examine for occult disease that could be responsible for the weight loss. Evaluation for competitive eating environments should also be considered.

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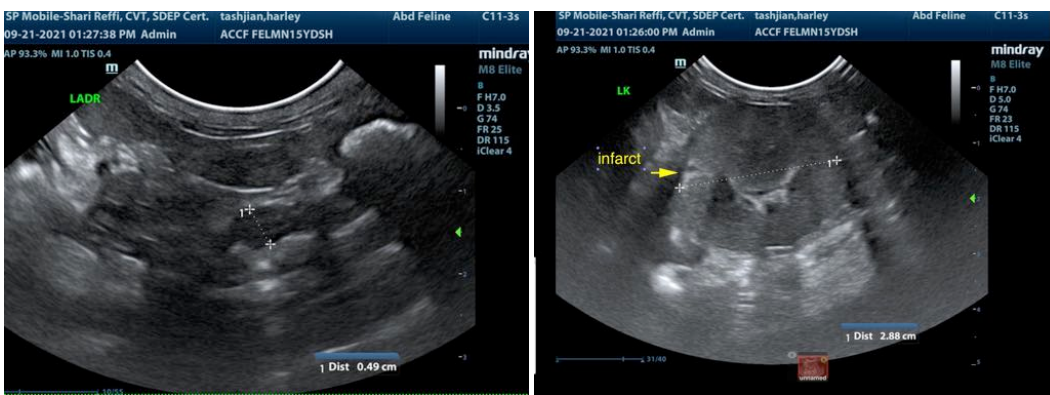
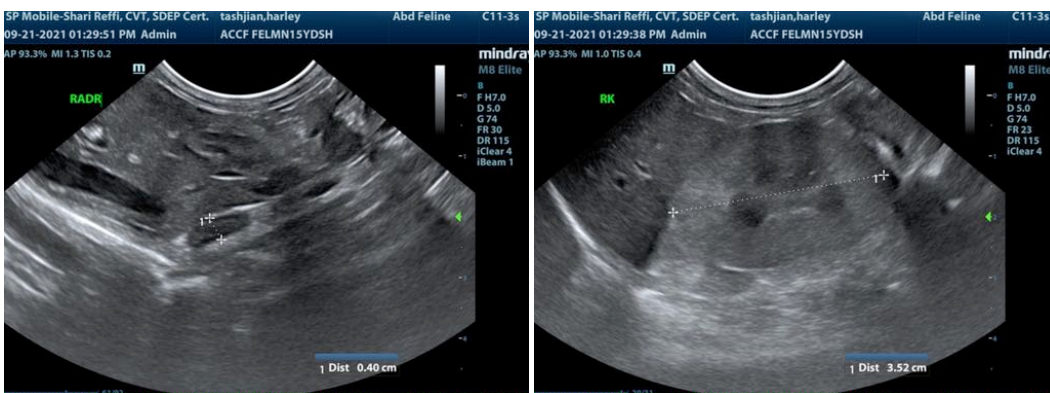
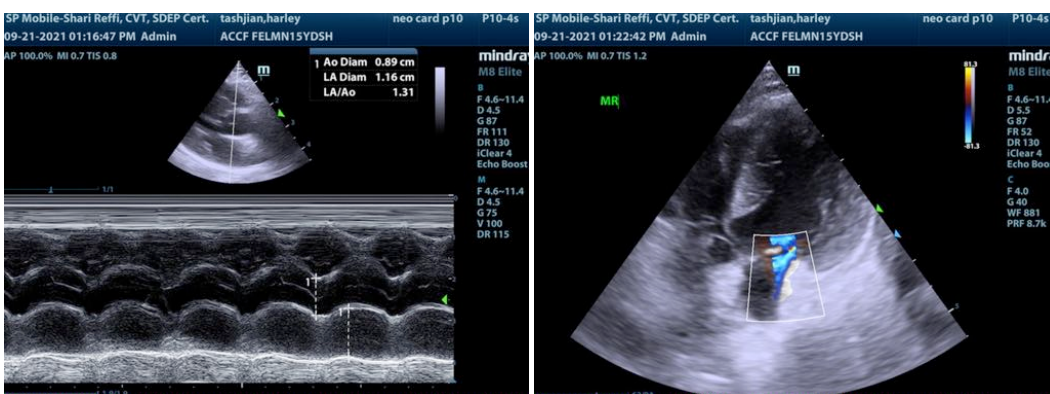
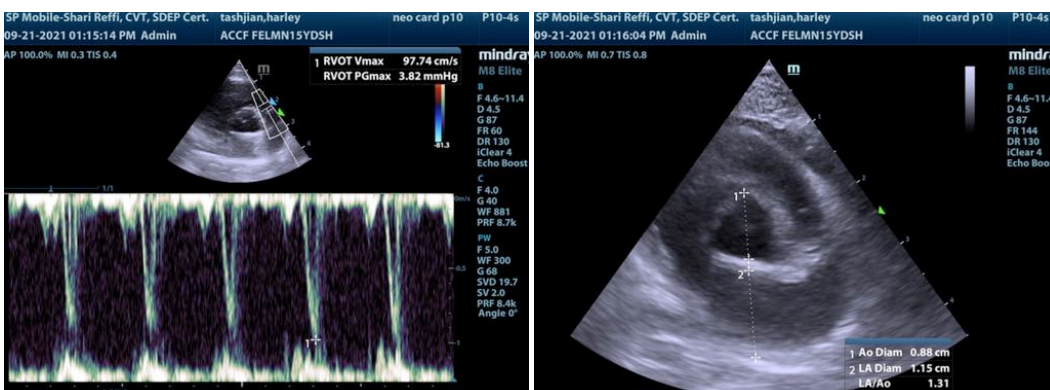
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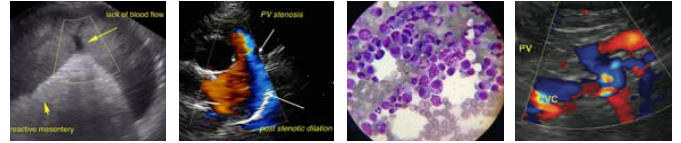
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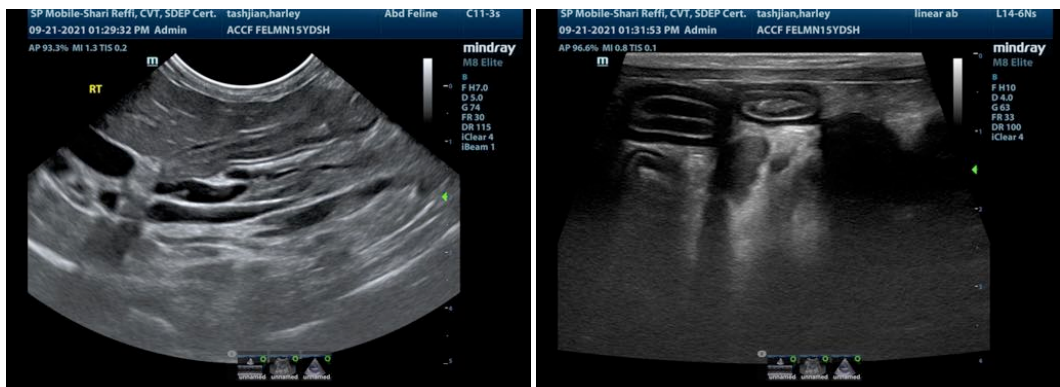
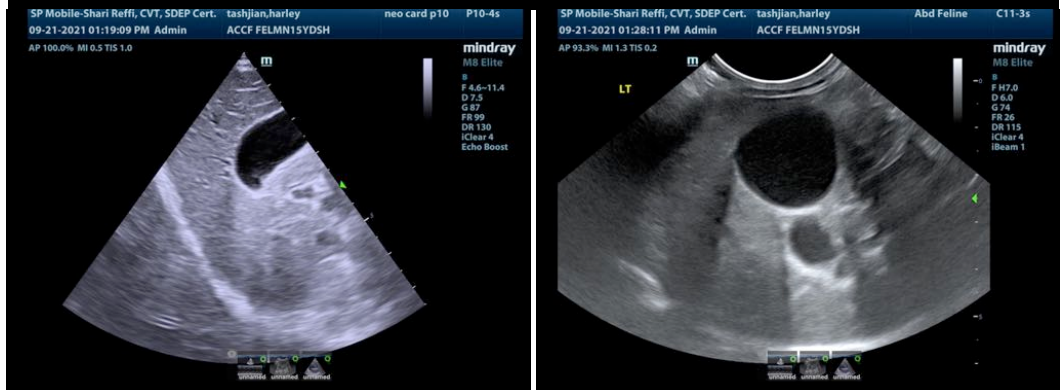
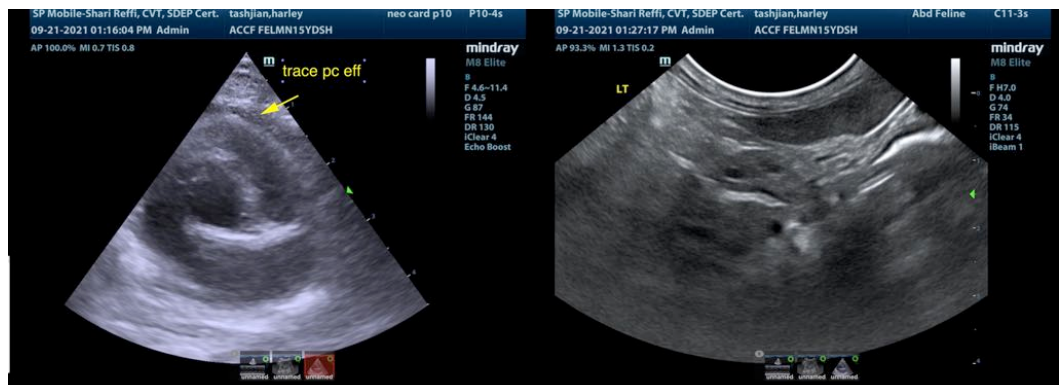
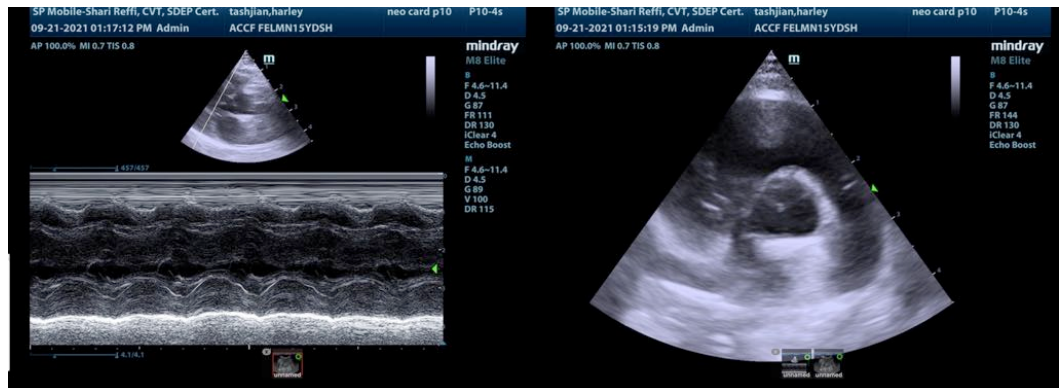
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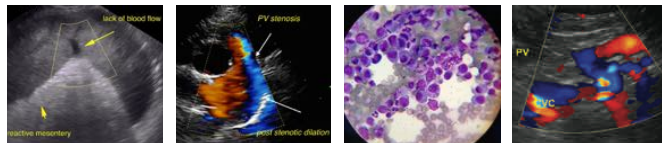
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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

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