


PATIENT

Lily Moriarity

SPECIES

Feline

BREED

Persian

SEX

FS

AGE

15 years

WEIGHT

2.24 kg

INTERPRETED BY

 R. McKenzie Daniel,
 DVM, DABVP

**IMAGING
 PERFORMED BY**

Kelly Reshny, RVT

HOSPITAL NAME

 Beattie Pet Hospital
 Stoney Creek

REFERRING VET

Dr. Wittenrich

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12606

DATE

11/12/21

PRESENTING CLINICAL SIGNS

gastroenteritis for 3 days history of anorexia

Abnormal PE/Chem/CBC/UA Results: BW mod anemia marked left shift, low CL and K rads show aorophagia

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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		NM	0.32	1.78	0.31	42.1	76.4
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		1.15	1.3	1.2	1.0	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 normal **left atrial** size and structure. Chamber volume and blood echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented minor irregular age-related changes that are not clinically significant at this time with adequate extension in systole and union in diastole. The **left ventricle** presented normal free wall and septal thicknesses with linear contour. Mild asymmetrical papillary muscle hypertrophy was present. The **myocardium** presented some echogenic remodeling consistent with expected age-related change. **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 dilation due to cuor pulmonale, stenosis, or pulmonic hypertension was noted. No visible **pericardial** or free pleural fluid was noted. The **mediastinum** was free of masses in the visible window.


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Urinary System

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The urinary bladder was mild to moderately distended. No evidence of Inflammatory or neoplastic mural criteria was present. The bladder contained moderate nondependent to particulate sediment and anechoic urine. No calculi were noted. The proximal urethra was not definitively visualized owing to pelvic artifact.

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The area of the aortic trifurcation was free of pathology.

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Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 3.6 cm in length. The right kidney measured 4.0 cm in length.

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Adrenal Glands
AGE

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No overt pathology was noted in the area of the left or right adrenal glands, although not definitively visualized owing to peri adrenal reactive mesentery and mesenteric lymphadenopathy.

Spleen
WEIGHT

2.24 kg

The spleen exhibited primarily finely textured parenchyma with subtle decreased echogenicity. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease. The spleen measured 1.0 cm width.

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Liver/ Gallbladder
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The liver exhibited mild to potentially moderate generalized enlargement and primarily maintained symmetrical capsule contour with nonuniform to mixed echogenic subtly nodular parenchyma. Focal cystic nodule was noted in the caudoventral liver.

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The gallbladder was non-distended in size with prominent to thickened isoechoic walls extending into the cystic biliary duct and common bile duct. No distinct hepatobiliary masses were noted. The common bile duct was mildly thickened and mildly dilated extending caudally towards the level of the duodenum. The common bile duct measured 0.2 cm in diameter.

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Gastrointestinal
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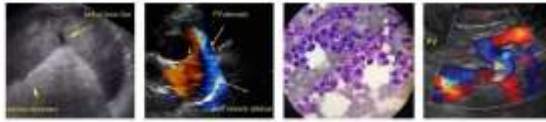
The stomach presented wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Mild gastric distension with mild to moderate retained anechoic fluid was present without evidence of retained ingesta or foreign material or overt mechanical pyloric outflow obstruction. The gastric body wall width measured 0.37 cm.

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The small intestine exhibited intact wall layering with segmental propensity for mildly prominent muscularis layer yet without overt evidence of Intestinal mural hypertrophy or loss of intestinal wall layering. The jejunum wall width measured 0.23 cm. The ileocolic wall width measured 0.33 cm.

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



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Pancreas

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The pancreas was prominent in size with normal contour and isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

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Free Abdomen

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Intermittent, mesenteric, including hepatic lymph nodes were present. These lymph nodes were homogenous, mildly hypoechoic and smoothly marginated. A normal width: length ratio was maintained (<0.5). Evidence of perilymphatic inflammation was evident. An example of lymph node size was 1.5 cm x 0.6 cm. Generalized increased mesenteric echogenicity with mild nonuniform mesenteric echotexture were present. Small pockets of scant peritoneal free fluid were noted.

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ULTRASONOGRAPHIC FINDINGS

Primary Findings

AGE

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- Distended urinary bladder with moderate nondependent sediment

- Bilateral chronic renal changes

WEIGHT

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- Hepatomegaly with nonuniform to focally cystic parenchyma

- Cholecystitis / cholangitis with nonobstructive common bile duct dilation

- Chronic to chronic active pancreatitis

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- Inflammatory gastroenteropathy with gastric stasis, potential for occult neoplastic infiltrative enteropathy

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- Associated mesenteric / hepatic lymphadenopathy - hyperplasia, reactive lymphadenitis, or early neoplastic lymphadenopathy possible

- Generalized reactive to inflamed mesentery and scant peritoneal free fluid

- Overtly normal cardiac structure and function for age

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The urinary bladder sediment may suggest cellular / crystalline debris or mucus. Cystocentesis for UA +/- C/S if evidence of inflammatory cells is recommended.

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Potential for acute or subacute Triad Disease may be a consideration in this patient if a current or previous history of elevated liver enzymes. Correlation with a GI panel to include PLI/TLI/Cobalamin/Folate may be considered. Assuming normal clotting status, ultrasound-guided FNA of the liver is warranted for screening cytology.

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Primary concern for multicentric inflammatory vs. emerging neoplastic disease within the abdomen is warranted. Empirically, hospitalization with as-needed supportive care, empirical therapy for cholangiohepatitis, pancreatitis, and inflammatory gastroenteropathy / Triad Disease would be appropriate.

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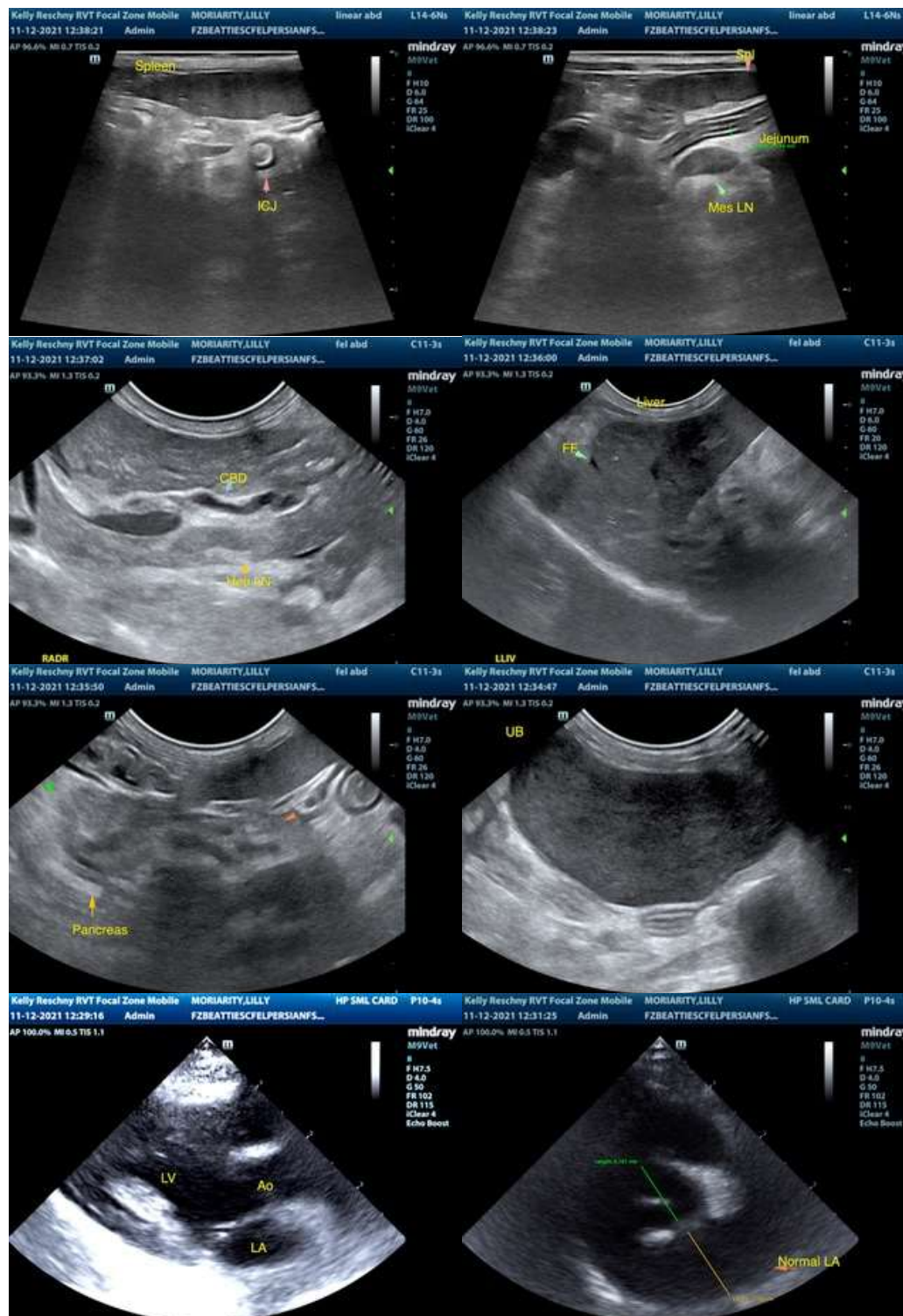
Dr. Wittenrich

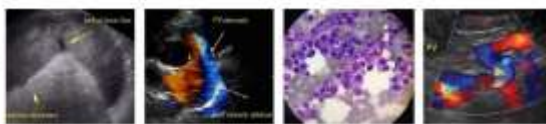
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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