**DATE PRESENTING CLINICAL SIGNS**

2/10/2022 History: Two-week history of liquid diarrhea, no response to metronidazole, deworming, high fiber diet, or probiotics.

**PATIENT**

Paisley Rice

Current Medications: Metronidazole, Strongid, Diigel.  
 Lab Results: AST 67, ALT 393, ALP 686, GGT 18. T4 is normal.  
 Date of Previous IntraPet Ultrasound: No previous IntraPet scans.  
 Sedation: Owner declined sedation.  
 Stat Report: Not requested.

**SPECIES**

Canine

Imaging Performed By: Andi Parkinson, RDMS.

**BREED**

Toy Poodle

\*\*Sedation would be required for more detailed/further imaging of the adrenal glands.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****SEX**

Female Spayed

**Urinary System**

The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder lumen is mildly distended with anechoic urine. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

**AGE**

2-1-2008

The left kidney is normal in size (3.59 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild to moderate loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

**WEIGHT**

7.3 Lbs.

The right kidney is normal in size (4.01 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild to moderate loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

**INTERPRETED BY**

Andrea Nicastro, DMV,  
 Diplomate DACVIM  
 (Small Animal  
 Internal Medicine)

**Adrenal Glands**

The left adrenal gland is upper limits of normal size (0.65 cm at cranial pole) (0.56 cm at caudal pole) (1.49 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**HOSPITAL NAME**

Eastern Animal  
 Hospital

The right adrenal gland is upper limits of normal size (0.28 cm at cranial pole) (0.58 cm at caudal pole) (1.37 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**REFERRING VET**

Dr. Wu

**Spleen**

The spleen is normal in size (0.70 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. Several ill-defined myelolipomas are observed along the medial aspect. Splenic vasculature is normal.

**INVOICE**

10313

**Liver**

The liver is subjectively normal to slightly prominent in size with normal curvilinear peripheral contour. The parenchyma is isoechoic relative to the spleen and homogenous in appearance. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion.

The gall bladder lumen is moderately distended. The wall is thin and smooth. A small amount of aggregated partially dependent debris is observed within the lumen. The cystic and common bile ducts are normal.

### ***Gastrointestinal***

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive or overt infiltrative disease is noted.

### ***Pancreas***

The left limb of the pancreas is visible with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion.

### ***Free Abdomen***

Trace free fluid is observed. The abdominal lymph nodes are normal/not visible.

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings**

- The hepatic parenchymal changes are non-specific and could be secondary to inflammatory disease, Leptospirosis, hepatotoxicosis (i.e., copper), infiltrative neoplasia (unlikely), and/or age-related change (i.e., vacuolar hepatopathy or regenerative nodular hyperplasia).

### **Secondary Findings**

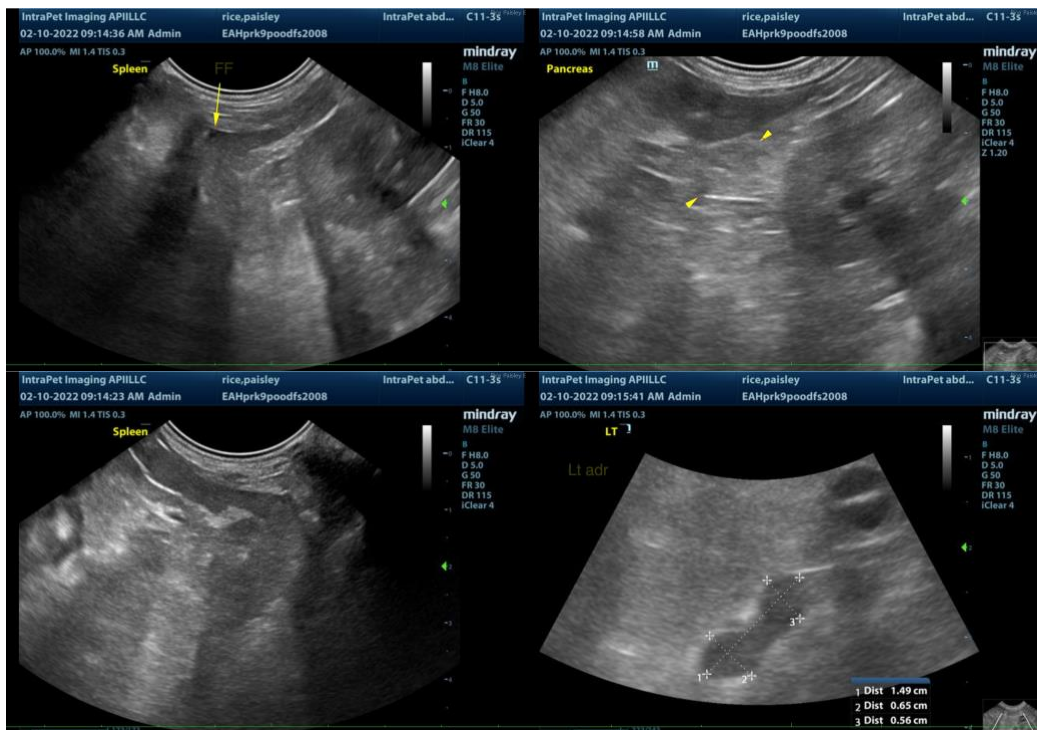
- Bilateral age-related renal changes with dystrophic mineralization
- Minor pancreatic remodeling (age-related)

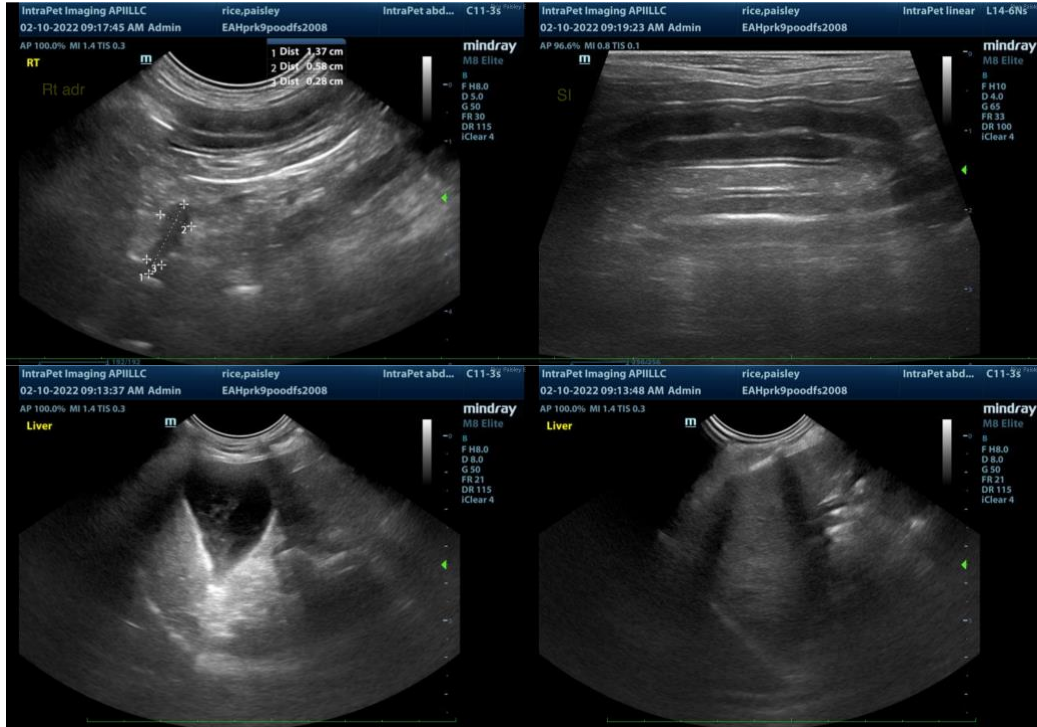
\*\* An obvious cause for the patient's diarrhea is not identified in this study. Considerations include underlying metabolic disease (i.e., hepatic dysfunction), low-grade pancreatitis, primary gastrointestinal disease, other.

## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- A fecal evaluation for ova and Giardia is recommended, if not already performed
- Consider prophylactic deworming with Fenbendazole.
- Consider transitioning from Metronidazole to Tylosin as empirical treatment for small intestinal bacterial overgrowth.
- Other diagnostic considerations for the diarrhea include GI Panel (send to Texas A&M) +/- gastrointestinal biopsies (if diarrhea does not improve with supportive care).

- Regarding the elevated liver enzymes, consider the following:
  1. Leptospirosis testing (i.e., blood and urine PCR, serology)
  2. Hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy).
  3. Thoracic radiographs should be performed prior to anesthetic event, given the patient's age.





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.

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