



**DATE** 08/02/2022 **PRESENTING CLINICAL SIGNS** Initial PC 7/29/22: V/D/anorexia/lethargic. Cerenia, SQF, metronidazole - first day seemed to improve but then declined, same signs

**PATIENT** Riley Newberry  
 Current Medications: Cerenia 5mg SQ last given 4pm 8/1  
 Lab Results: BW 7/20 NSF, BW 8/1 pending.

**SPECIES** Radiographs: stomach appeared empty; no obvious obstruction; poss cardiomegaly.

Canine Date of Previous IntraPet Ultrasound: No previous.

**BREED** Sedation: Not required to complete full diagnostic ultrasound.

Yorkie Mix Stat Report: Not requested.

**SEX** Imaging Performed By: Stephanie Warga RDCS, RVT.

FS **ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**AGE** *Urinary System*

2014 The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

**WEIGHT**

10lb

The left kidney has a normal shape and size. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal. The left kidney measured 3.55 cm in length.

**INTERPRETED BY**

Kathleen Sennello  
 DVM, MS, Diplomate  
 ACVIM (Small Animal  
 Internal Medicine)

The right kidney has a normal shape and size. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal. The right kidney measured 3.51 cm in length.

**HOSPITAL NAME**

Chadwell Animal  
 Hospital

*Adrenal Glands*

The left adrenal gland is normal in size measuring 0.49cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**REFERRING VET**

Dr. Jones

The right adrenal gland is normal in size measuring 0.51cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**INVOICE**

11261ag

*Spleen*

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

*Liver*

The liver is subjectively large in size, and echogenicity with smooth peripheral margins. The parenchyma is hypoechoic and heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic with moderate/large hyperechoic debris. The cystic and common bile ducts are normal/not visible.

### ***Gastrointestinal***

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (0.29 cm in width) and the jejunum measured as normal (0.34 cm in width) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

### ***Pancreas***

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

### ***Free Abdomen***

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

## **ULTRASONOGRAPHIC FINDINGS**

- Large heterogeneous hypoechoic liver. The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Hyperechoic gallbladder debris. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

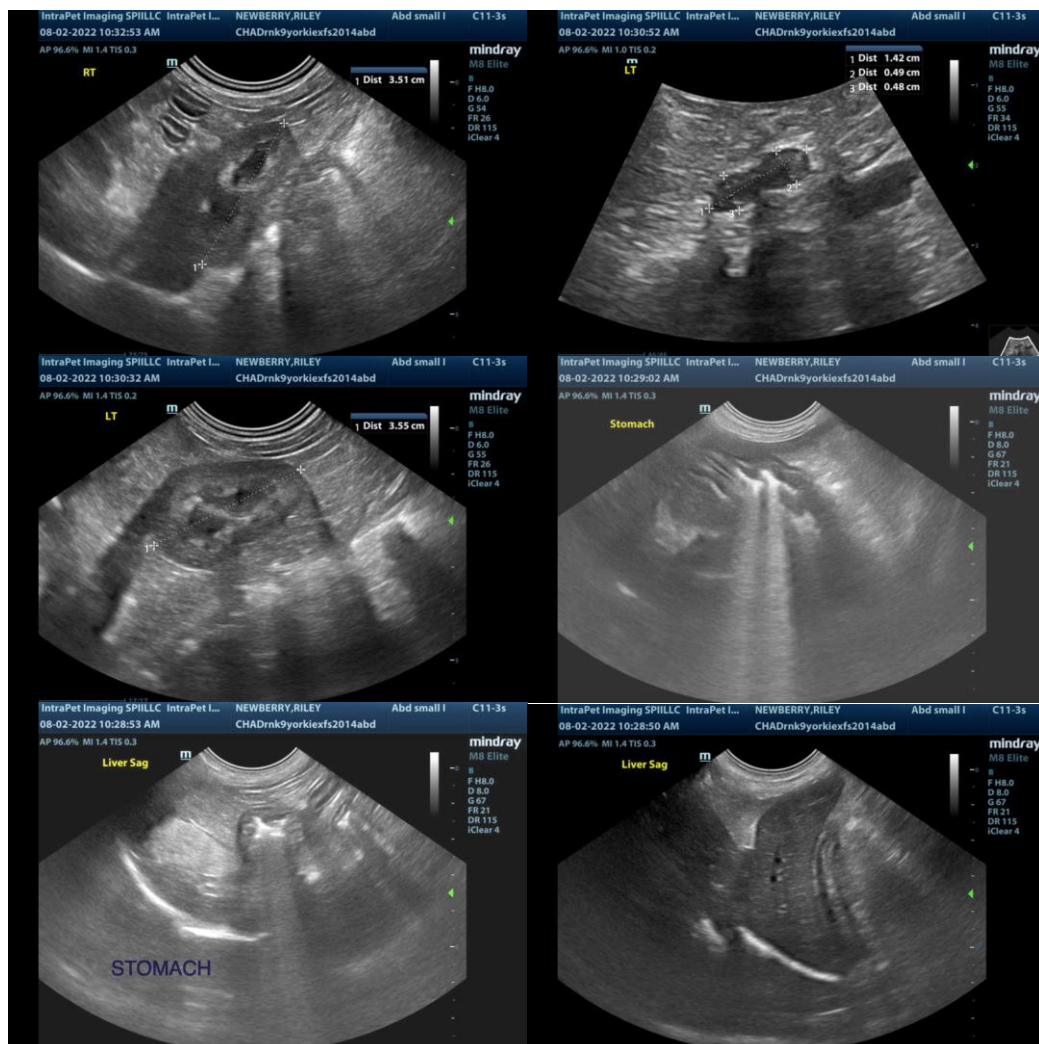
## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

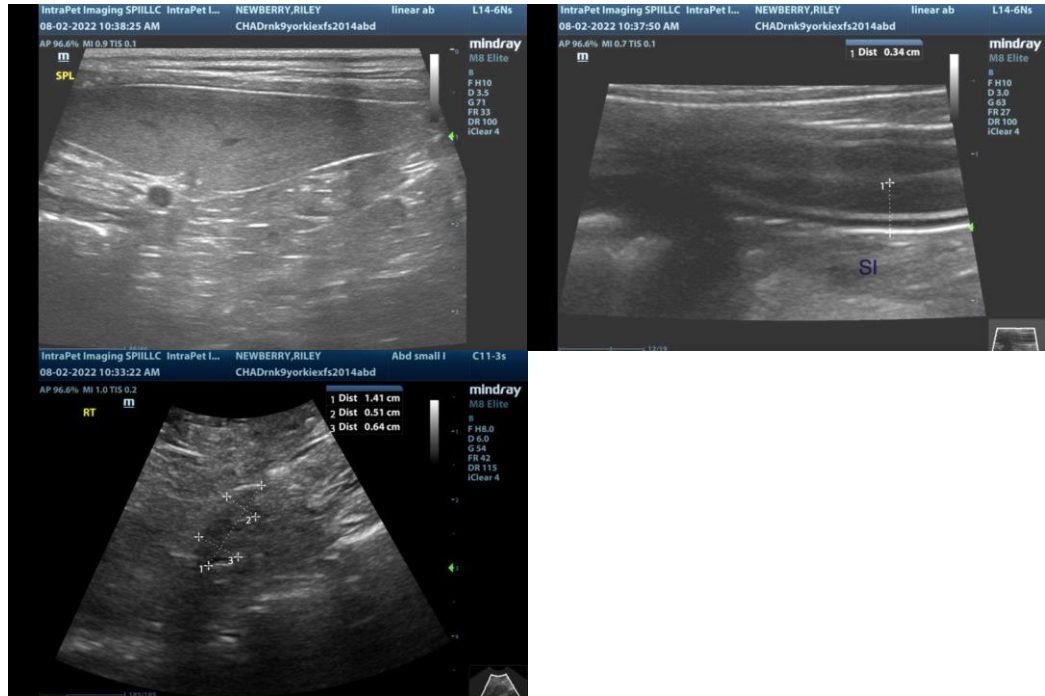
No focal lesions were visualized within the GI tract to explain the vomiting and diarrhea reported. Unfortunately, there are many causes for vomiting and diarrhea which cannot be diagnosed by ultrasound alone. Consider food allergy/dietary intolerance, acute pancreatitis (not observed), dysbiosis, infectious causes, occult parasitism or less likely IBD or intestinal neoplasia.

- Consider a novel protein or hydrolyzed prescription diet
- Recommend chronic probiotic therapy
- Recommend ACTH stim test or baseline cortisol to screen for Addison's disease
- Considered a GI panel to Texas A&M with PLI, TLI, Cobalamin and Folate to further evaluate the pancreas and small intestine

If there are continued symptoms despite adequate supportive care for nonspecific gastroenteritis and recheck lab work is normal then consider obtaining Gi biopsies.

The liver subjectively appears heterogeneous, hypoechoic and enlarged. Additionally, there is moderate gallbladder debris and some inflammation in the area of the liver. Correlate with liver enzyme values, if there are no significant elevations then the significance of this is questionable. If liver elevations are present consider a liver function test, testing for leptospirosis and a FNA of the liver. Additionally, monitoring of the gallbladder is recommended to look for progression of this lesion.





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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)  
kathleen.sennello@sonopath.com