

**PATIENT**

Cody Miranda

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Neutered Male

**AGE**

12 Years

**WEIGHT**

14 Pounds

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING PERFORMED BY**

Emily Kirk

**HOSPITAL NAME**

Shiloh AH

**REFERRING VET**

Dr. Chelsea Tabor

**INVOICE**

37502

**DATE**

5/7/22

**PRESENTING CLINICAL SIGNS**

Diagnosed with IBD via internal ultrasound last year. Patient has primarily been managed with diet as owner is hesitant to start steroids. Recently was vomiting food for 3-4 days that has since stopped with Cerenia.

Abnormal PE/Chem/CBC/UA Results: Lab work not recently updated. Labs in the fall were unremarkable.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is well distended. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. A small to moderate amount of free floating sediment is present, some of which seems to be forming "aggregates", however, there is no evidence of cystoliths. Polyps or a mass is not visualized.

**Kidneys**

The **left** kidney measures 4.38 cm (3.80-4.40 cm). The capsule is smooth. The cortex is mildly hyperechoic and a mild loss of the normal definition of the cortico-medullary junction is present. There are no signs of nephroliths or pyelectasia. A normal amount of intrapelvic fat is noted. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 4.41 to 4.66 cm (3.80-4.40 cm); within normal limits to very mildly enlarged. The capsule is smooth. The cortex is mildly hyperechoic and a mild loss of the normal definition of the cortico-medullary junction is present. There are no signs of nephroliths or pyelectasia. A normal amount of intrapelvic fat is noted. The surrounding mesentery is not hyperechoic.

**Aortic bifurcation/trifurcation**

No abnormalities observed.

**Adrenal Glands**

The **left** adrenal gland measures 0.30 cm at the cranial pole and 0.31 cm at the caudal pole. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.56 cm at the cranial pole and 0.46 cm at the caudal pole. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

**Spleen**

The spleen is within normal limits in size 7.6 mm (normal = 10 mm), echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified. The mesentery surrounding the spleen and stomach is mildly hyperechoic.

**Liver**

Hepatomegaly is suspected, however, this is better characterized at the time of the ultrasound or with radiographs. Its borders are smooth and sharp. The liver's echotexture is homogeneous, however, it is mildly hyperechoic, i.e. it is isoechoic to the falciform fat and spleen. No obvious abnormalities are observed with the hepatic vessels visualized.



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The gallbladder wall is within normal limits in thickness and echogenicity. A small amount of echogenic material is present within the GB. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.

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**Gastrointestinal**

A moderate amount of gas and fluid are present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. Peristalsis appears to be within normal limits.

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The duodenum (0.23 cm) is within normal limits.

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The colonic wall is not thickened and mural detail is considered normal.

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The right limb pancreas has a heterogeneous echotexture. It is hypoechoic, but also has a mildly coarse echotexture, consisting of very small hypoechoic nodules of variable size and punctate, hyperechoic foci, scattered throughout the parenchyma. These changes are suggestive of nodular hyperplasia and fibrosis, respectively, and likely due to age-related changes, and possibly to previous episodes of pancreatitis. The overall diffuse hypoechoic parenchyma is suggestive of active pancreatitis.

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No overt abnormalities are observed with the echogenicity or echotexture of the left limb. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.

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**Other**

**Lymph nodes**

No abnormalities are observed

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**Abdominal effusion** is not visualized.

**ULTRASONOGRAPHIC FINDINGS**

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- The gastrointestinal changes are subtle, but are suggestive of inflammation. Infiltrative disease, such as neoplasia, is considered unlikely, however, one cannot exclude it with certainty without performing tissue biopsies.

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- The pancreatic changes noted with the right limb are suggestive of nodular hyperplasia and fibrosis. Fibrosis may occur due to age-related changes, secondary to previous episodes of pancreatitis, as well as amyloid deposition. The overall echogenicity is hypoechoic, therefore, a mild, "smoldering" pancreatitis cannot be excluded. Overt signs of neoplasia are not appreciated.

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- Differential diagnoses for hepatomegaly and the mild, but diffuse hyperechogenicity of the liver include cholestasis, and cholangitis/cholangiohepatitis. There are no obvious signs of cholecystitis. Hepatic lipidosis secondary to hyporexia may be contributing to the hyperechogenicity

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- Based on the above findings, severe “triaditis” cannot be excluded.
- Very mild renal changes are present, which are suggestive of age related degeneration.

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Analgesia for visceral pain, such as buprenorphine, is suggested, as well as supportive care, such as maropitant once a day for a few days, and subcutaneous fluids (administered at home, if possible).

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A re-evaluation of Cody’s laboratory work, including, a CBC, serum biochemical profile, urinalysis, and T4 are recommended.

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Ideally, a TLI, serum cobalamin, and folate should be performed to assess for underlying maldigestion and malabsorption disease, as many cats with IBD and pancreatitis may also suffer from exocrine pancreatic insufficiency. If the test is cost prohibitive, supplementation with vitamin B12 is suggested.

Deworming with a broad spectrum dewormer, such as fenbendazole, is suggested if Cody goes outdoors or if he lives with other pets that go outdoors.

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A veterinary prescription brand hypoallergenic diet, whether hydrolyzed or novel protein, may be tried. Multiple diets may be required, including only canned food, as some individuals cannot digest dry. The kibble may be soaked if an all canned diet is cost prohibitive.

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Small, frequent meals are recommended.

A 10-14 day trial with famotidine or omeprazole may be considered.

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Cholestasis, cholangitis/cholangiohepatitis cannot be excluded. Secondary ascending bacterial infections may also occur. Although indiscriminate use of antibiotics is not normally recommended, one could start treatment with a broad-spectrum antibiotic.

To avoid oral antibiotics due to Cody’s hyporexia, an injection of cefovecin (Convenia) may be tried (not ideal, but it avoids the GI tract). Discussion with the client that this is not necessarily an ideal drug is suggested, however. If an improvement is observed, at least 2 additional doses are recommended 10-12 days apart.

**IMAGING PERFORMED BY**

Emily Kirk

If further diagnostics are not pursued, although not ideal, empirical treatment for inflammatory bowel disease is suggested. A dose of prednisolone (1 mg/kg/day) may be administered for 2 weeks, and then tapered to the minimum effective dose.

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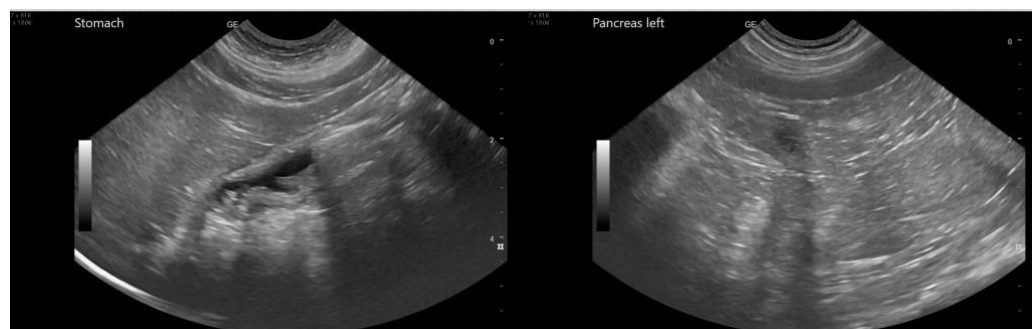
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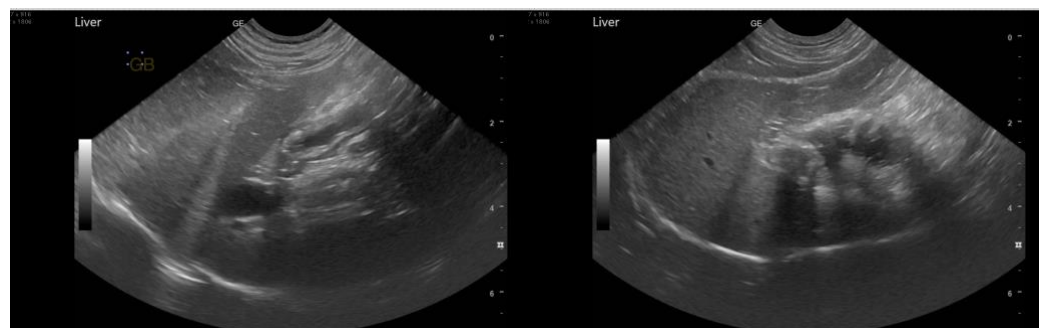
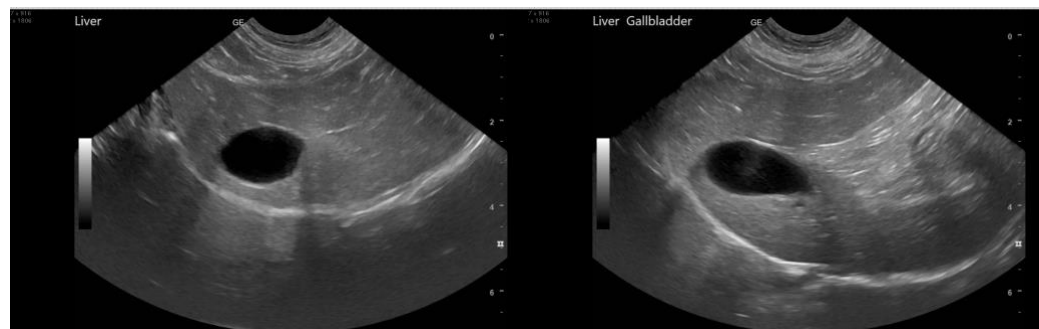
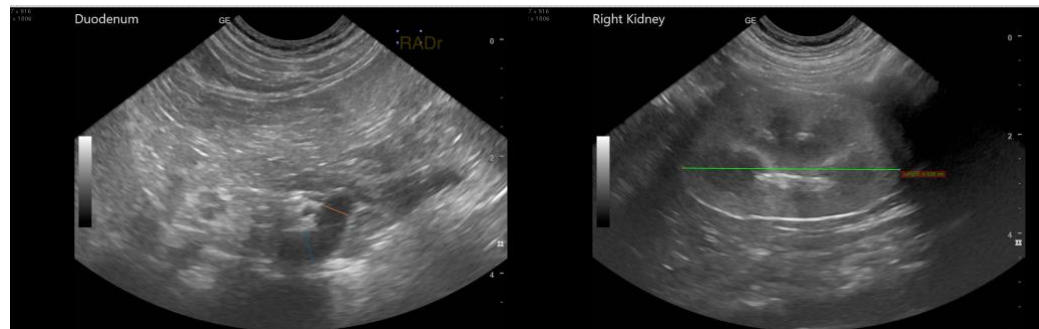
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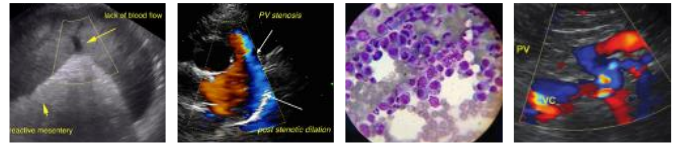


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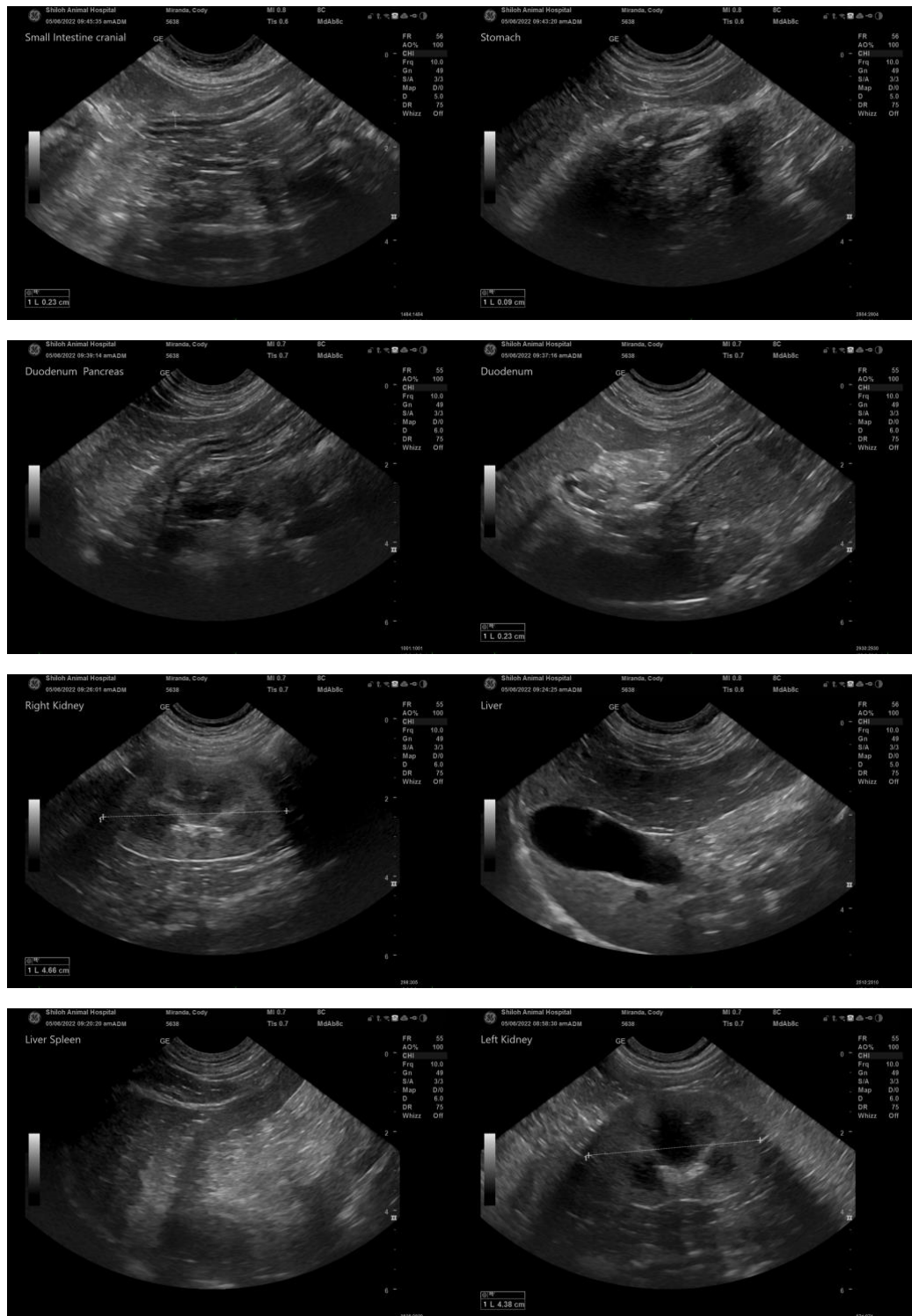
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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