



PATIENT

Hunter Reiner

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

14.5 Years

WEIGHT

5.4 kg

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

Dr. Trudeau

HOSPITAL NAME

Petworks Vet Hospital

REFERRING VET

Dr. Trudeau

INVOICE

37143

DATE

4/25/22

PRESENTING CLINICAL SIGNS

chronic intermittent vomiting that has worsened recently. Long history of upper respiratory tract infections that are treated intermittently with Azithromycin. On presentation, on April 13, he had a mildly painful abdomen on palpation, Abnormal PE/Chem/CBC/UA Results: bloods: an elevated fPL, and a mild hyperglobulinemia. The rest of his bloodwork was unremarkable. X-rays: His intestines appeared to be "bunched" in one area of his abdomen and have slightly decreased detail.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is adequately/well distended with anechoic contents. The wall is smooth and regular. No abnormalities are noted with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass.

Kidneys

The **left** kidney measures 3.57 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. Mineralizations of the diverticulae and pelvis are present, with possible small nephroliths (i.e. occasional acoustic shadowing is noted). There is no evidence of or pyelectasia. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 3.80 cm (3.80-4.40 cm). Similar findings are observed.

Adrenal Glands

The **left** adrenal gland measures 0.33 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 **right** adrenal gland measures 0.29 cm at the cranial pole and 0.29 cm at the caudal pole. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture.

Spleen

The spleen is very mildly enlarged in size, measuring 11.0 mm (normal = 10 mm). The capsule is smooth. A subtle, diffuse "miliary" echotexture is observed. No obvious abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Liver

There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The liver's echotexture is homogeneous and it is within normal limits in echogenicity.

The liver's echotexture is homogeneous, however, it is mildly hyperechoic, i.e. it is isoechoic to the falciform fat in certain views. No focal nodules or cystic lesions are observed and the hepatic vessels visualized do not show any abnormalities or congestion. The walls of the portal veins are mildly hyperechoic, and occasional perivascular cuffing of other blood vessels is also present. The latter may be due to the deposition of fat, as well as some mild mineralization and inflammation. There is no evidence of hepatic congestion.

The gallbladder wall is within normal limits in thickness and echogenicity. A mild amount of free floating echogenic material (sludge) is present within the lumen. The portions of the cystic and common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.



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Gastrointestinal

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The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

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The small intestines measure within normal limits to the high end of the reference range. Although the definition of the wall layers of the small intestines is well preserved, the muscularis is thicker than normal. The colonic wall is not thickened and mural detail is considered normal.

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There are no obvious signs of a mass, foreign body or an obstruction in the gastrointestinal tract.

Pancreas

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A small portion of the **right limb** is visualized. Areas of mild hypoechogenicity are present, in addition to pinpoint and small punctate, hyperechoic foci. The former may be due to mild edema, while the latter may be secondary to age-related fibrosis, and possible previous episodes of pancreatitis. The surrounding mesenteric fat is mildly hyperechoic. Findings are suggestive of mild active pancreatitis and age-related changes. Overt signs of neoplasia are not noted.

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Similar findings are noted with the **left limb**.

Other

Lymph nodes

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No abnormalities are observed

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

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The gastrointestinal changes may be due to inflammation secondary to inflammatory bowel disease or a component of "triaditis". Infiltrative disease, such as lymphoma or other round cell tumour, cannot be excluded, but is considered less likely given the preservation of the definition of the architecture of the wall layers.

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Mild active pancreatitis is suspected, in addition to fibrosis due to age-related changes. Other causes of fibrosis include possible previous episodes of pancreatitis, ischemia and amyloid deposition.

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Cholangitis/cholangiohepatitis cannot be excluded based on the mild hyperechogenicity of the liver. Subclinical hepatic lipidosis may also be contributing to the hyperechogenicity.

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The mild miliary appearance of the spleen may be due to extramedullary hematopoiesis and mild splenitis, however a "sensitive" ultrasound machine can "pick up" details that may not normally be seen and overinterpretation may occur. If the mottling is more apparent than usual, differential diagnoses other than extramedullary hematopoiesis and mild splenitis due to antigenic stimulation may include early infiltrative disease, such as lymphoma or mast cell neoplasia. In conclusion, the interpretation of the spleen should take into account the experience with one's machine; if there is any doubt that Hunter's spleen is "more mottled" compared to other "normal spleens", a FNA of the spleen is warranted. Another option is to re-evaluate his spleen sonographically in 3 to 4 weeks.

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Mild degenerative changes of both kidneys are present, which are suggestive of age related degeneration.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Treatment for pancreatitis is recommended, including analgesics, such as buprenorphine as well as supportive care, such as maropitant, +/- subcutaneous.

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

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.

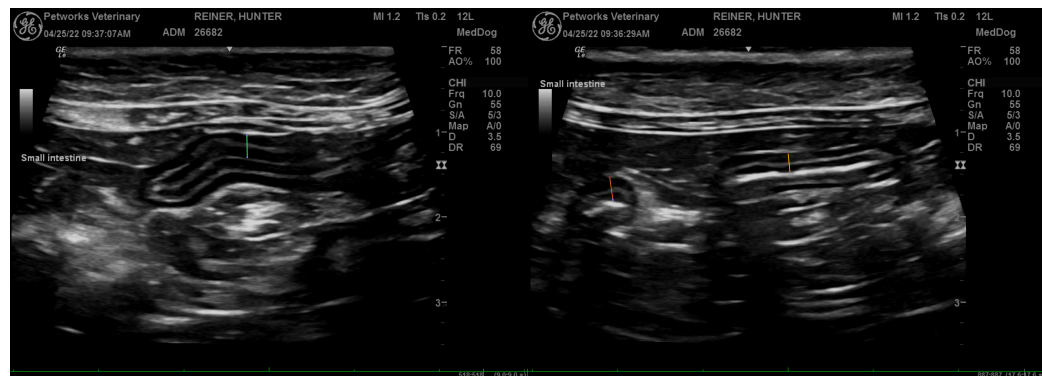
A 10-14 day trial with famotidine or omeprazole may be considered.

A TLI, vitamin B12, and folate may be performed as cats suffering from IBD and pancreatitis may suffer from cobalamin deficiencies. If the test is cost prohibitive, supplementation with vitamin B12 is suggested.

Cholestasis, cholangitis/cholangiohepatitis cannot be excluded, despite the absence of abnormalities with liver enzyme activities on blood work. Secondary ascending bacterial infections are common. Although indiscriminate use of antibiotics is not normally recommended, one could start treatment with a broad-spectrum antibiotic

If there is no response to the above, endoscopy and biopsies of the upper and lower GI tract are suggested.

If further diagnostics are not pursued, although not ideal, empirical treatment for inflammatory bowel disease with corticosteroids may be administered (1 mg/kg/day), in addition to a hypoallergenic diet, that is easily digestible, but appetizing to prevent catabolism and sarcopenia.





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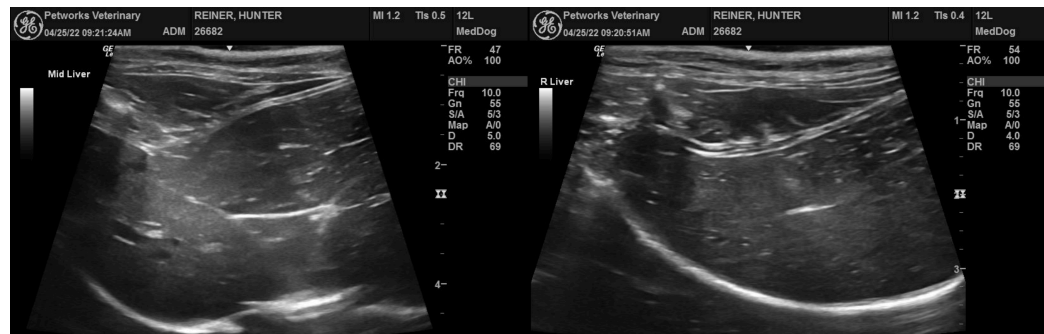
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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