



PATIENT

Copper Avelleyra

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Neutered male

AGE

5 years

WEIGHT

10.12 lbs

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

Amanda Olson

HOSPITAL NAME

Limestone VH

REFERRING VET

Dr. McCarthy

INVOICE

99510

DATE

4/25/22

PRESENTING CLINICAL SIGNS

History: Presented 4 days ago for 2 day hx of anorexia, couple episodes of vomiting and ADR. Owner administered Elura and Cerenia at home (medications from another cat). On day of presentation he did eat in the morning and kept it down, but was still ADR. BW: mild hypophosphatemia (3.3 (3.4 is the low end of normal range)), AXR were reviewed by a radiologist (gas in stomach, but unremarkable otherwise). No improvement with outpatient care. Administered SQ fluids, started on Carafate and administered DexSP along with injectable Pepcid and BupSR. Per owner he has been tolerating syringe feedings well all throughout the weekend but vomited 2 x this morning.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is adequately distended with anechoic contents. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. A moderate amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

Kidneys

The **left** kidney measures 4.27 cm (3.80-4.40 cm). The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 4.03 cm (3.80-4.40 cm). The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, are preserved. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.30 cm in diameter. 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 0.34 cm in diameter. 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 echotexture, and echogenicity. It measures size 5.9 mm (normal = 10 mm). The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.



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Liver

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There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The liver's echotexture is homogeneous and is within normal limits in echogenicity (hypo to the falciform fat). No abnormalities are observed with the hepatic vessels visualized.

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The gallbladder wall is within normal limits echogenicity and thickness. There is no evidence of echogenic material within the GB or edema surrounding it. The portions of the cystic and common bile ducts observed are not dilated or tortuous, i.e. there are no obvious signs of an obstruction.

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Gastrointestinal

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A very large amount of fluid and gas are present in the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. Decreased peristalsis is observed, suggestive of an ileus. An obvious foreign body or neoplasm is not visualized. The mesentery surrounding the stomach is hyperechoic, which is suggestive of a gastritis.

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The duodenum is within normal limits in thickness at 0.22 cm, however, it is corrugated and the submucosa is more prominent than usual.

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Although the small intestines are within normal limits in thickness and the definition of the wall layers is preserved, the submucosa is prominent throughout. Gas and ingesta are present and a "to and fro" peristalsis is observed, rather than normal motility. Abnormally dilated loops of bowel are not observed.

Granular ingesta is present within the transverse colon.

The colonic wall is not thickened and mural detail is considered normal. Formed stools are within the colon.

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Pancreas

The distal portion of the left limb is moderately hypoechoic and the surrounding mesentery is moderately hyperechoic, i.e., signs of active pancreatitis are present.

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Other

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Lymph nodes

Within normal limits in size, echotexture, and echogenicity, however, a few of the mesenteric lymph nodes are slightly "plump", and the surrounding mesentery is mildly hyperechoic. Reactive hyperplasia cannot be excluded.

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Abdominal effusion is not visualized.

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ULTRASONOGRAPHIC FINDINGS

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- The gastrointestinal abnormalities observed are suggestive of gastritis secondary to vomiting episodes. The corrugated duodenum and prominent submucosa of the small intestines, as well as the diffuse ileus of the gastrointestinal tract are suggestive of underlying inflammation.



PATIENT	Differential diagnoses include inflammatory bowel disease, as well as secondary inflammation due to pancreatitis. Obvious signs of infiltrative disease, such as lymphoma or other round cell tumour, are not appreciated, and is considered unlikely. Very mild reactive hyperplasia of the mesenteric lymph nodes is suspected based on “plump” lymph nodes; i.e. they remain within the normal reference range in size.
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SPECIES	
Feline	<ul style="list-style-type: none"> Active pancreatitis is suspected based on the subtle abnormalities observed. Although hepatic abnormalities are not observed, cholangitis/cholangiohepatitis cannot be excluded. There are no obvious signs of cholecystitis. That is, “triaditis” may be present despite the absence of sonographic abnormalities.
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Domestic Shorthair	<ul style="list-style-type: none"> Hypovolemia may be present based on the size of the spleen, however, this should be correlated with Copper’s physical exam findings.
SEX	
Neutered male	
AGE	INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS
5 years	A nasoesophageal tube may be passed to remove the fluid. This should alleviate his discomfort.
WEIGHT	Metoclopramide or ondansetron may be added to the maropitant to help decrease nausea, as maropitant is more of an anti-emetic.
10.12 lbs	Analgesia for visceral pain, such as buprenorphine, is suggested, as well as supportive care, such as maropitant once a day for 4-5 days, subcutaneous fluids (administered at home, if possible), as well as a 10-14 day trial with famotidine or omeprazole may be considered.
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Lisa Carioto, DVM, DVSc, Diplomate ACVIM	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.
IMAGING PERFORMED BY	A serum cobalamin, folate, and spec fPL are recommended to evaluate for pancreatitis and assess for underlying maldigestion and malabsorption disease, as well as dysbiosis.
Amanda Olson	If the test is cost prohibitive, supplementation with vitamin B12 is suggested.
HOSPITAL NAME	Cholestasis, cholangitis/cholangiohepatitis cannot be excluded, and secondary ascending bacterial infections may 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 Copper’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 <u>10-12</u> days apart.
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Dr. McCarthy	If there is no response to the above, endoscopy and biopsies of the upper <u>and</u> lower GI tract are suggested.
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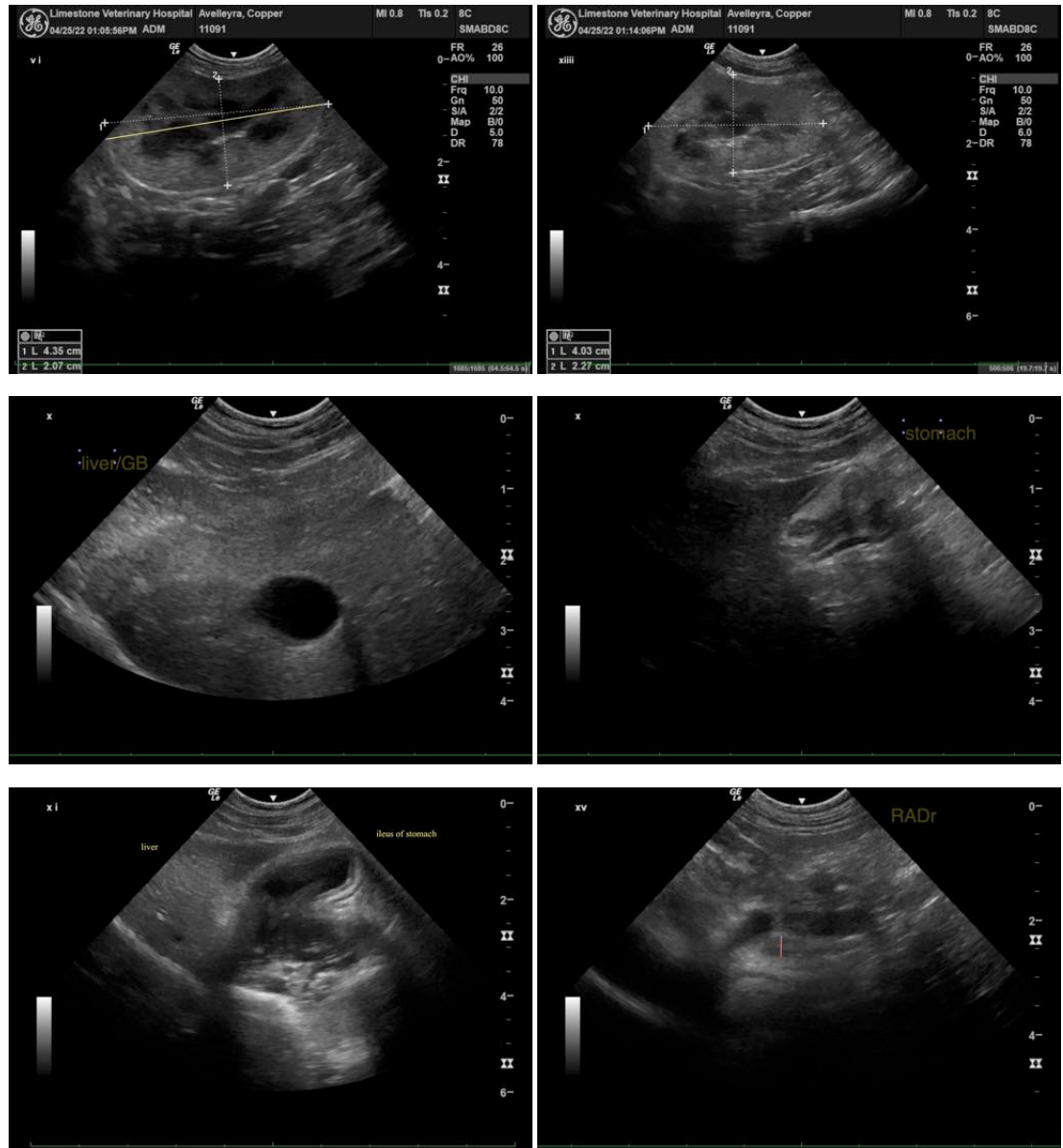
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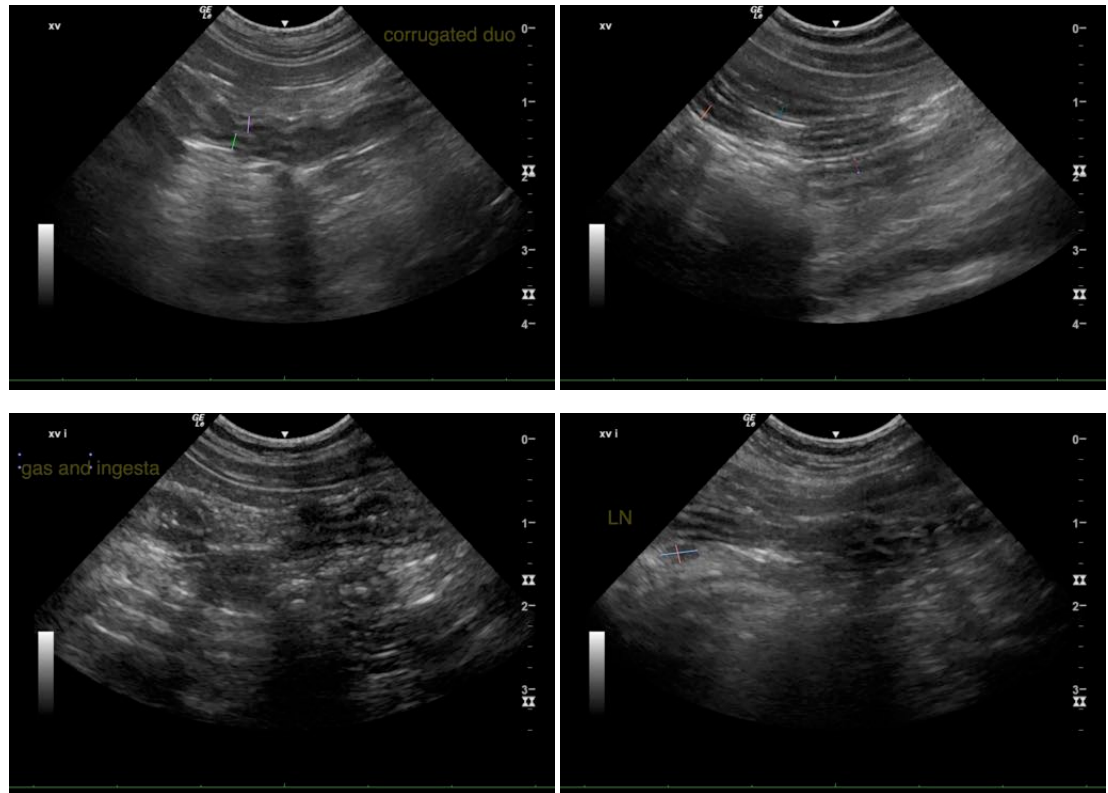
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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