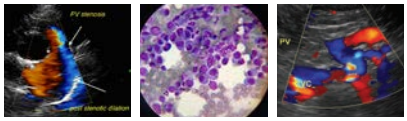
IMAGING PERFORMED BY

IntraPet.com



SonoPath

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DATE

6/28/22

PATIENT

Morty Constantine

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

9/1/17

WEIGHT

11.5 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Homeward Bound VS

REFERRING VET

Dr. Vance

INVOICE

39071

PRESENTING CLINICAL SIGNS

Vomiting with increased frequency. BW all WNL except GGT.

Current Medications: None. Will start Gabapentin.
Lab Results: GGT elevated.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

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.

The left kidney has a normal shape and size (4.18 cm). 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 has a normal shape and size (3.7 cm) with a hyperechoic infarcted region at the caudal pole. 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 or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.45 cm 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.

The right adrenal gland is normal in size measuring 0.42 cm 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.

Spleen

The spleen is subjectively normal in size (0.82 cm at the level of the hilus), 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 normal in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. There are too numerous to count, moderate sized, hyperechoic shadowing foci noted throughout the hepatic parenchyma, most consistent with intrahepatic biliary stones. Additionally, there are stones visible in the gallbladder and likely bile duct. No focal nodules or cystic lesions are observed.

The gallbladder lumen is moderately distended. The wall of the gall bladder does not appear overtly thickened and has a smooth mucosal surface. There is a large, hyperechoic shadowing focus within the gallbladder lumen, most consistent with a stone, measuring 1.28 cm. The bile duct is difficult to follow, but there is the impression of sandy intraluminal debris/small stones and possibly mineralization at the level of the duodenal papilla.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.36cm 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 uniform diameter with minimal fluid distension. Wall thickness is normal to slightly increased. Bowel loops follow a typical curvilinear path with distinct wall layering, but some areas display a prominent muscularis layer which does not display the typical 1:3 muscularis:mucosa layer ratio. Jejunum wall measured 0.17 cm. 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

- Too numerous to count intrahepatic bile stones as well as a gallbladder stone and mineralized debris within the bile duct.
- Infarct noted in the right kidney – The solitary renal lesion identified is ill defined and hyperechoic, this could be consistent with a previous renal infarct and can be an indicator of current or previous renal disease.
- Prominent muscularis layer of the small intestine – The small intestinal wall changes are most consistent with an inflammatory process (i.e., inflammatory bowel disease) with a low possibility of emerging lymphoma.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are numerous intrahepatic biliary stones visualized as well as a stone within the gallbladder and likely sandy debris/small stones within the bile duct. There is no overt dilation visualized of the biliary structures, so there appears to be minimal obstruction at this time. Liver enzymes are not elevated, but the mild elevation in GGT is possibly a hint at some irritation. These stones could be asymptomatic or could be causing a low level of discomfort, nausea, etc.

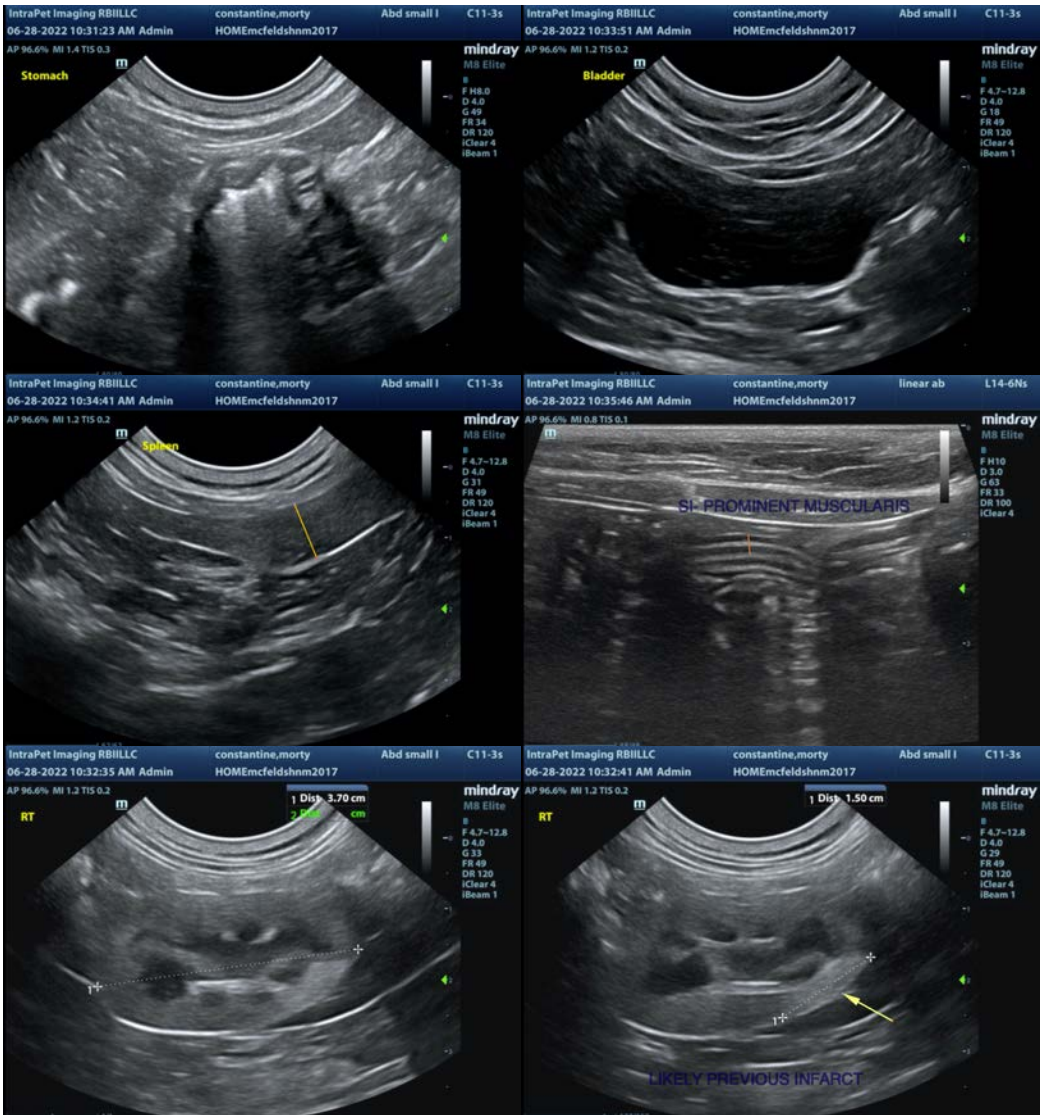
Additionally, there is a prominent muscularis layer of the small intestine. This could be an incidental finding or could be an indication of some underlying inflammatory type changes in the small intestine. Consider the following:

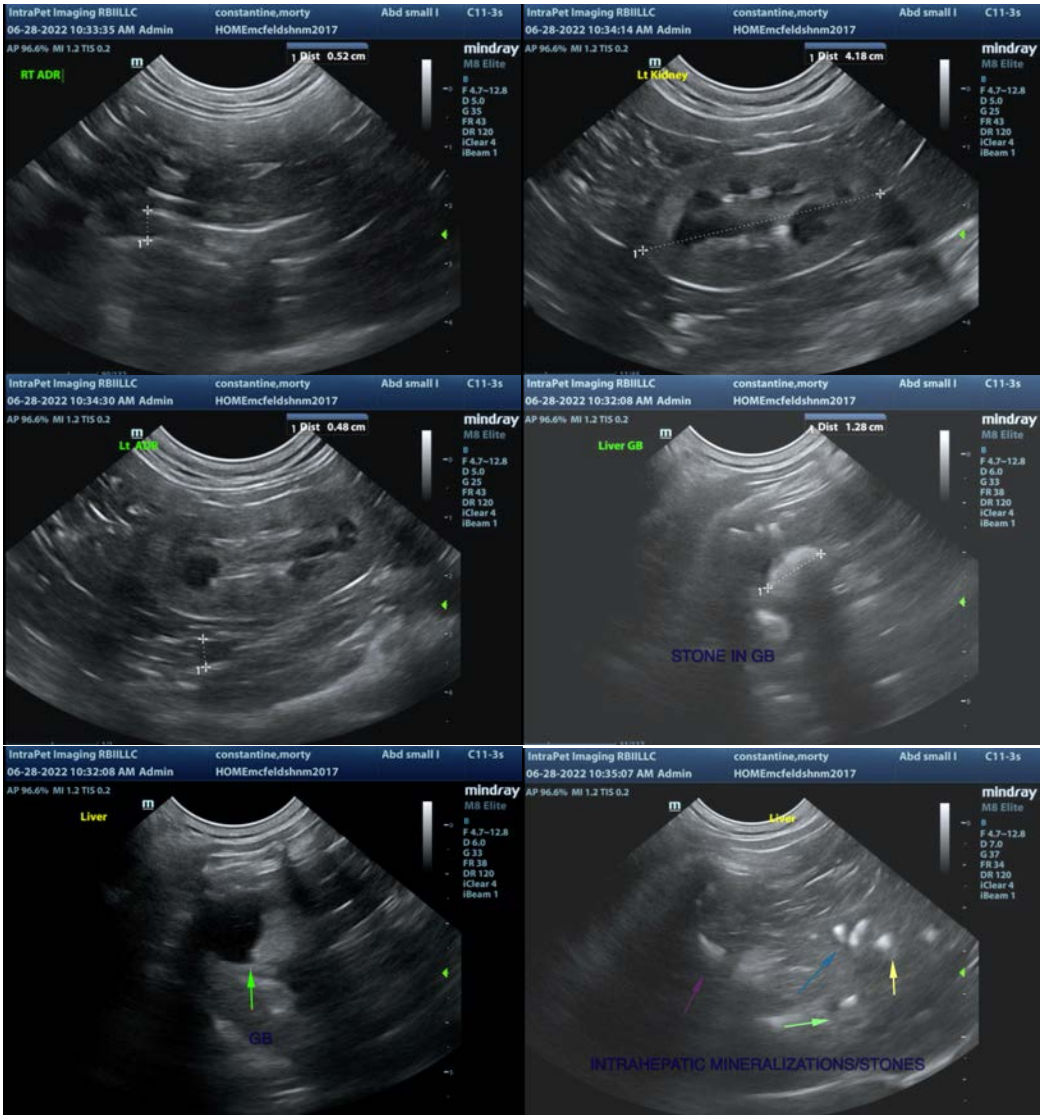
- Recommend a novel protein/hydrolyzed protein prescription diet.

- Consider a GI panel to Texas A&M for a qualitative fPLI, TLI, cobalamin and folate to further evaluate the pancreas and small intestine (look for evidence of concurrent pancreatic disease and small intestinal disease).

- Consider chronic Ursodiol therapy.
- Recommend routine monitoring of the liver and biliary tract with bloodwork and imaging. If there is a spike in liver enzymes, recommend a course of antibiotics and imaging to look for evidence of a focal obstruction.
- If significant GI inflammation is suspected, you could consider obtaining GI biopsies.
- Consider symptomatic therapy for nausea, etc. as needed.

Unfortunately, I suspect this issue will progress over time and could become more of a clinical disease process. Recommend abdominal radiographs to see if these stones can be visualized, so you can follow them over time.





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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