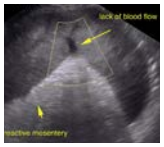
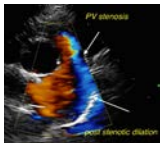
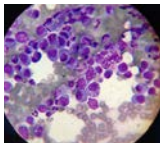
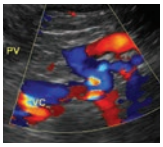
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Norman Simeone

SPECIES

Canine

BREED

Rat Terrier

SEX

Neutered Male

AGE

4.5 Years

WEIGHT

8.26 kg

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Dr. Massa

HOSPITAL NAME

Animal Emergency Hospital Volusia

REFERRING VET

Dr. Massa

INVOICE

44303

DATE

1/10/23

PRESENTING CLINICAL SIGNS

Norman is a 4.5y MN Rat Terrier presenting for vomiting/diarrhea and drooling. The O woke up tonight and found multiple piles of vomit and diarrhea (no blood noted). P was drooling excessively and seemed "spaced out". Nothing he could have gotten into and he is a very picky eater per O. P has similar episode ~4 months ago (though no V/D, just tense abdomen and lethargy)- presented and showed mild hepatomegaly on rads and elevated ALT/GGT/Tbili on Chem. P was also diagnosed with pancreatitis per rDVM last year and seizures due to spacing put episodes. Phenobarbital

Abnormal PE/Chem/CBC/UA Results: 10/28/22 Chem: ALT 513 (0-120); ALP 113 (0-140); GGT 33 (0-14); Tbili 0.8 (0-0.5) 01/19/23 Chem: ALT 197 (0-120); ALP 119 (0-140); GGT 13 (0-14); Tbili <0.1 (0-0.5)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The prostate is unable to be visualized in these images.

The right kidney is normal in size (5.1 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (5.1 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

The adrenal glands are unable to be well visualized in these images.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

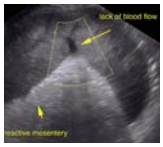
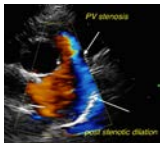
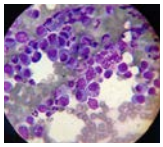
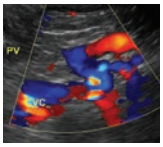
Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as mild suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. Pyloric outflow tract appears patent.

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Norman Simeone

SPECIES
Canine

BREED
Rat Terrier

SEX
Neutered Male

AGE
4.5 Years

WEIGHT
8.26 kg

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Dr. Massa

HOSPITAL NAME
Animal Emergency Hospital Volusia

REFERRING VET
Dr. Massa

INVOICE
44303

DATE
1/10/23

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- **Heterogenous Liver –** These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.

- **Mild gallbladder debris -** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is no ultrasonographically visible explanation for this patient's acute gastrointestinal signs. Given the reported intermittent chronic nature of them, further evaluation is recommended, beginning with A baseline cortisol. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

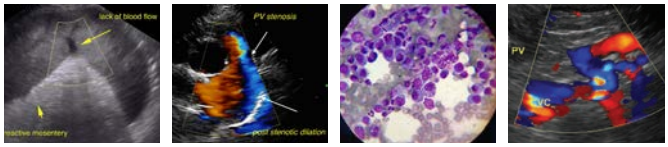
A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

Additionally, if not recently evaluated, and to further evaluate possible underlying causes for a vascular event/stroke, a blood pressure is recommended.

Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

In the meantime, supportive/symptomatic medical management of the gastrointestinal signs with antiemetics, a gastroprotectants, a probiotic such as Visbiome or Proviable, and potentially empirical deworming with a 5-day course of Panacur are recommended.

If these clinical signs are recurrent, and patient will tolerate a transition in diet, a hydrolyzed protein diet could be considered, or potentially a bland, easy to digest or even low-fat diet based on trial and error response.



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Norman Simeone

SPECIES

Canine

BREED

Rat Terrier

SEX

Neutered Male

AGE

4.5 Years

WEIGHT

8.26 kg

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Massa

HOSPITAL NAME

Animal Emergency Hospital Volusia

REFERRING VET

Dr. Massa

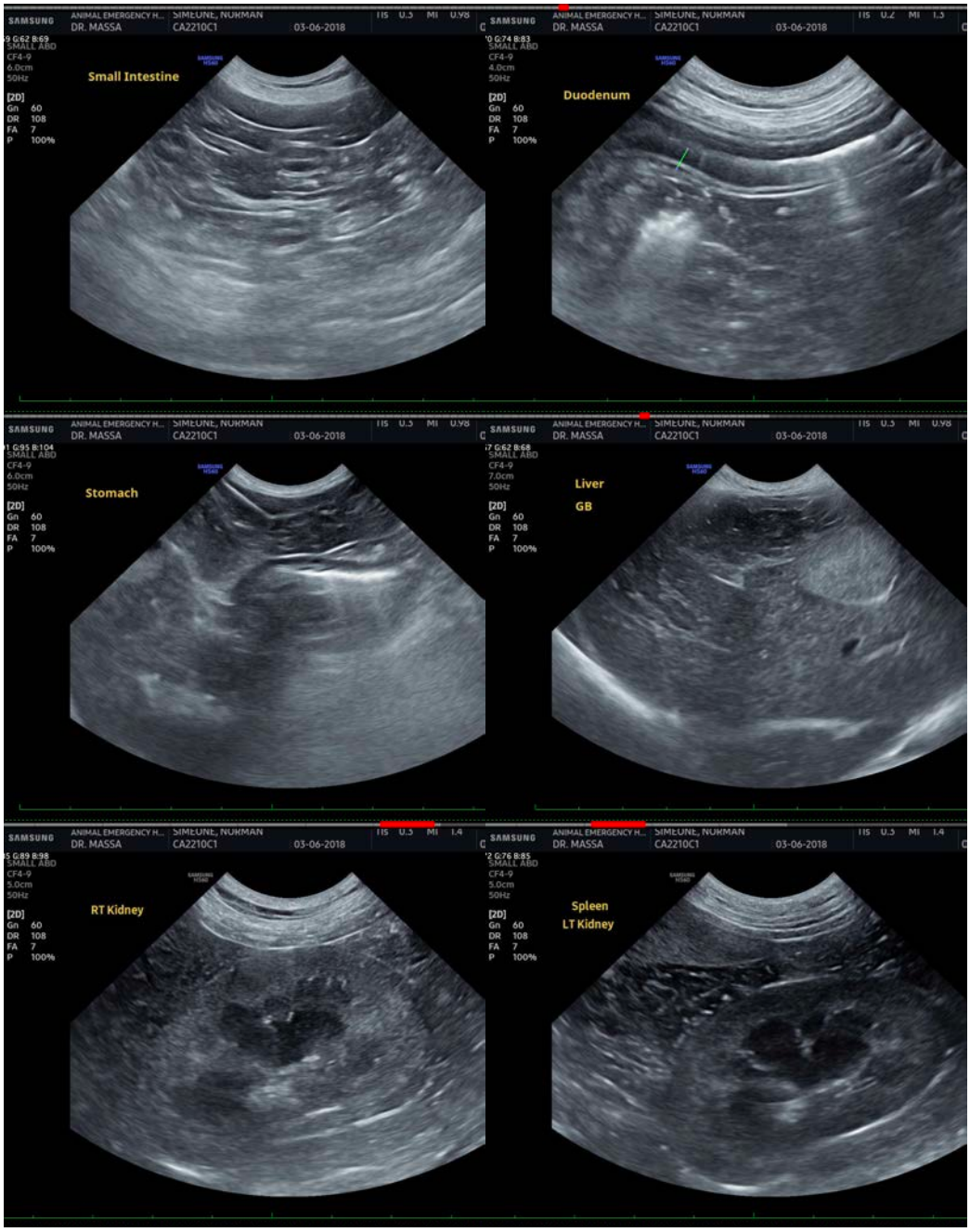
INVOICE

44303

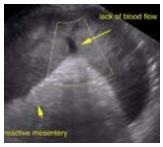
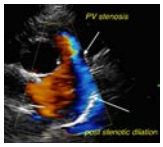
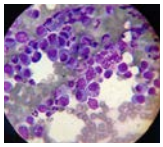
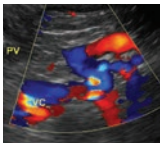
DATE

1/10/23

If this approach does not yield a result, then given the patient's historically increased liver enzymes combined with seizures, etc., even though liver enzyme increases have improved, bile acid testing would be warranted.



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Norman Simeone

SPECIES

Canine

BREED

Rat Terrier

SEX

Neutered Male

AGE

4.5 Years

WEIGHT

8.26 kg

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Massa

HOSPITAL NAME

Animal Emergency Hospital Volusia

REFERRING VET

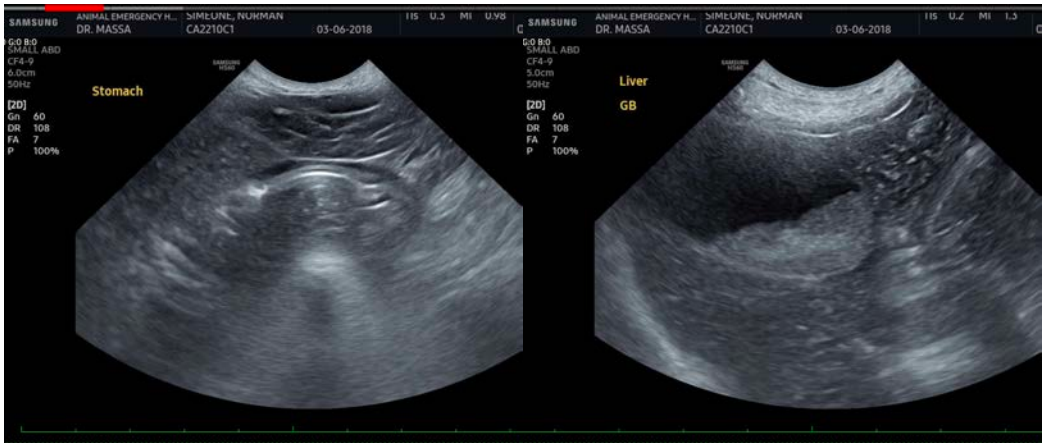
Dr. Massa

INVOICE

44303

DATE

1/10/23



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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com