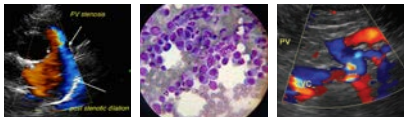
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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**DATE**

6/20/23

**PATIENT**

Xiuxie Greenberg

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

5/1/09

**WEIGHT**

5.93 Pounds

**INTERPRETED BY**

Beth Johnson, DVM DACVIM

**HOSPITAL NAME**

Chadwell AH

**REFERRING VET**

Dr. Oliveri

**INVOICE**

43314

## PRESENTING CLINICAL SIGNS

Cat first seen 5/22/23 for weight loss, "hard abdomen". BW showed mild anemia and elevated liver enzymes. Advised at this time for abd US/denamarin. Cat seen 6/13/23 for vomiting. owner declined repeat BW started on Denamarin treated symptomatically with Cerenia. Told to schedule US.

Current Medications: denamarin for cats, started 6/13/23
Lab Results: See attached.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Stephanie Warga RDCS, RVT.

## 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.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. The left kidney measured 3.6 cm. The right kidney measured 3.69 cm.

### *Adrenal Glands*

The right adrenal gland is normal in size (0.30 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.38 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

### *Spleen*

Spleen is subjectively large in size with a mildly swollen but smooth capsule. Parenchyma is normal and homogenous in echogenicity and echotexture. No focal nodules or masses are observed. Splenic vasculature appears normal.

### *Liver*

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. A 3.2 cm x 4.4 cm cystic, septated nodule/mass is noted in the deep right liver. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is empty, resulting in a mildly thick appearance of the wall. The cystic and common bile duct are tortuous in appearance but not pathologically dilated, which is often a normal anatomic variant in a cat.

### *Gastrointestinal*

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestine demonstrates areas of thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular, thick and hyperechoic, without evident loss of layering appreciated. The lumen is empty with no evidence of obstruction or foreign material.

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

### *Pancreas*

Pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and has a mildly irregular undulating contour. Parenchyma is coarse with mixed echogenic remodeling noted. Pancreatic duct dilation is noted.

### *Free Abdomen*

Trace free fluid is noted.

There is no apparent lymphadenopathy noted in these images.

## PRIMARY FINDINGS

- Hyperechoic hepatomegaly with feline biliary cystadenoma – This appearance is most consistent with benign hepatic lipidosis. Infiltrative disease such as amyloidosis or round cell neoplasia, such as mast cell tumor or less likely, lymphoma, is also possible. In a senior cat, the liver lesion noted is most consistent with a benign biliary cystadenoma. Malignancy cannot be ruled out but is considered less likely give lack of clinical signs and/or laboratory changes.

- Inflammatory bowel disease (IBD) pattern – Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. No aggressive lymphadenopathy, loss of layering, etc. is noted to make lymphoma more probable, but lymphoma cannot be definitively ruled out without tissue sampling.

- Hypersplenism – can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, amyloidosis as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered.

- Chronic active pancreatitis

## SECONDARY FINDINGS

- Age related kidney changes and a trace amount of free fluid

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

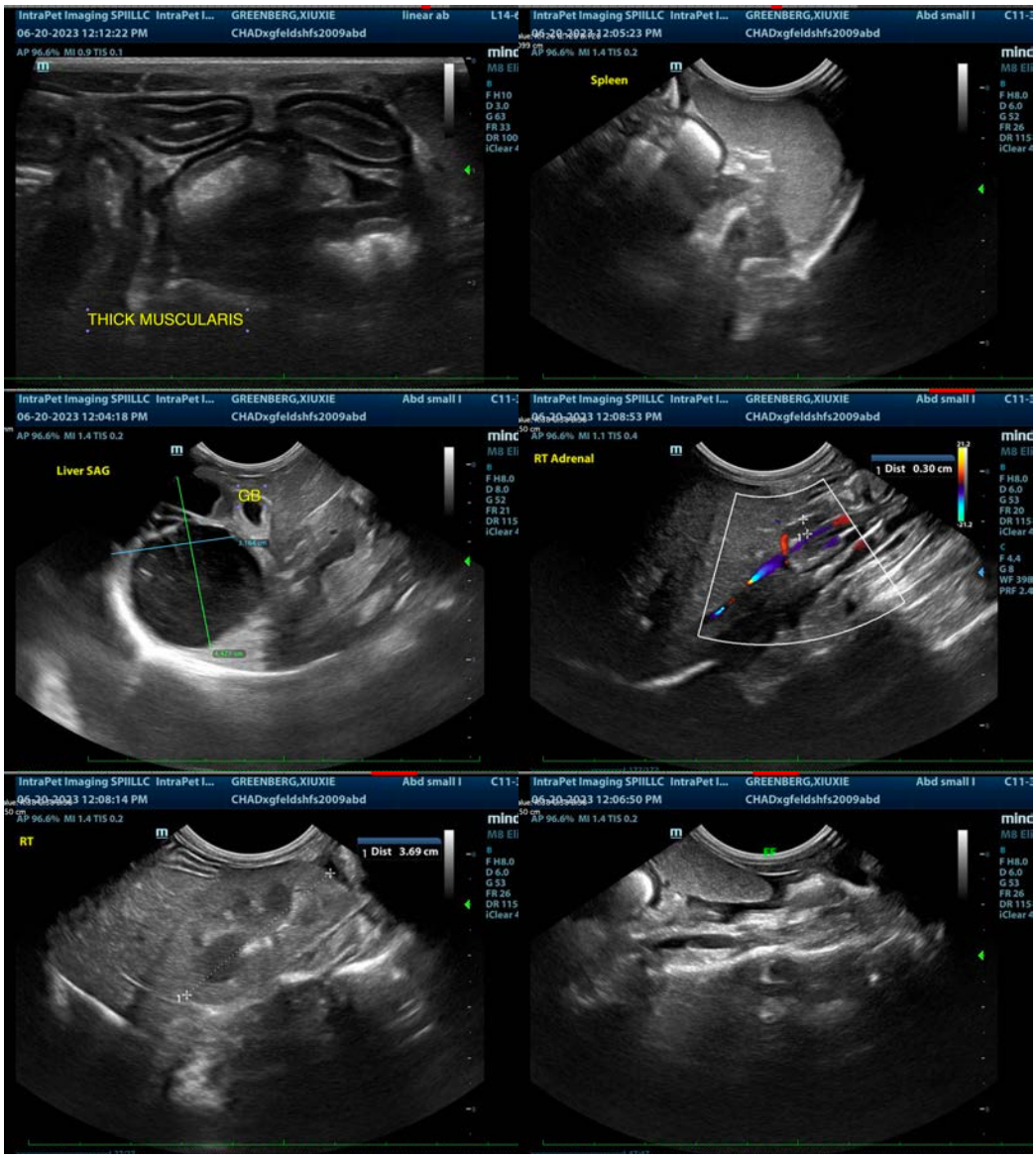
Fine needle aspirates of the spleen, the diffuse homogeneous liver parenchyma, as well as the cystic liver nodule/mass are all recommended if patient's coagulation status is appropriate.

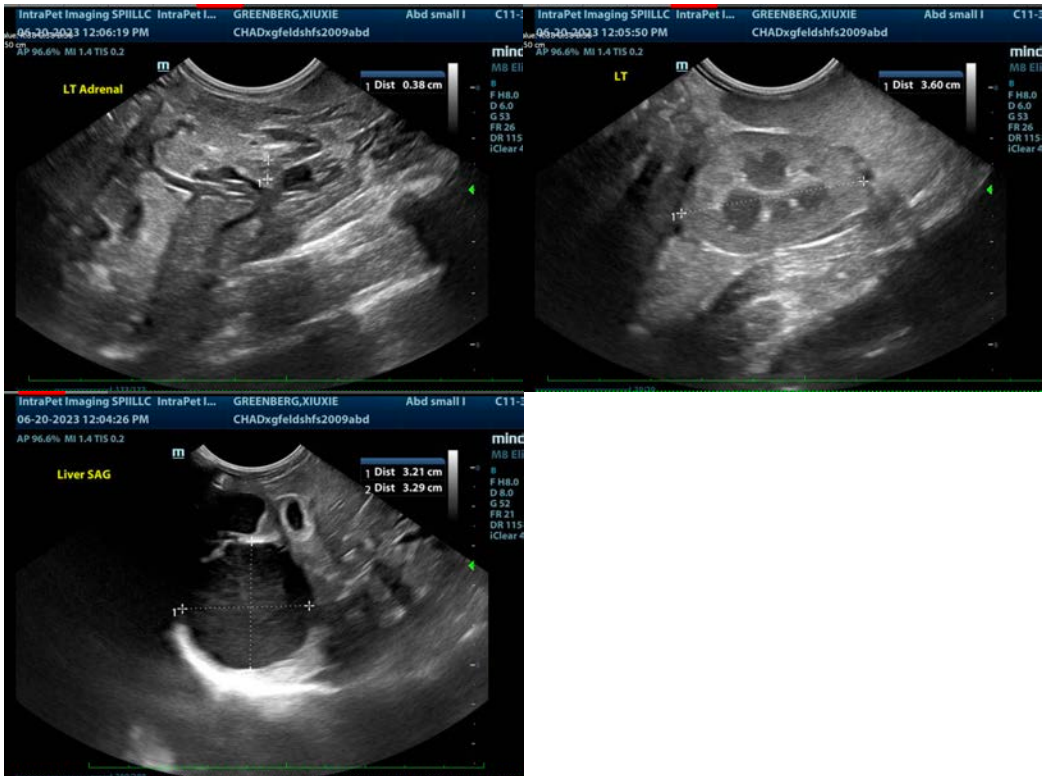
Additionally, a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

Pending results, ultimately biopsies of the GI tract, being sure to include ileum, if possible, may be required for a definitive diagnosis and therefore to help further guide medical management.

However, in the meantime, treatment recommendations include fluid therapy, anti-emetics, gastroprotectants, hepatic nutraceuticals such as ursodiol and/or Denamarin, and broad spectrum antibiotics. Nutritional support is critical to prevent/manage concurrent hepatic lipidosis, so appetite stimulants and/or, if indicated, feeding tube placement is also recommended.

Additionally, empirical deworming with a 5-day course of Panacur is recommended.






**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
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