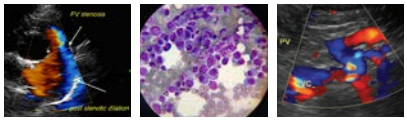
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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DATE

5/10/23

PATIENT

Bob the Cat Furmanski

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

3/11/07

WEIGHT

12.31 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

HOSPITAL NAME

Stevenson Village Vet

REFERRING VET

Dr. Dreizen

INVOICE

47306

PRESENTING CLINICAL SIGNS

Presented for wellness exam, had not been to vet in at least 5 years. History of occasional vomiting (~ once per month) attributed to dietary indiscretion (leaves/pine needles). Physical exam was unremarkable. Senior wellness bloodwork showed elevated liver enzymes, pancreatic enzymes and calcium

Current Medications: None.
Lab Results: Chem: ALP 164 (H), ALT 498 (H), AST 156 (H), TBili 0.3, Amylase 1656 (H), Ca 11 (H), Chol 316 (H). GI Panel: Cobalamin 231 (L)
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

Urinary bladder is not fully distended, but it appears to have a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with incidental suspended lipid in a cat, possibly combined with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (4.23 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 (4.13 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 right adrenal gland is normal in size (0.33 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.46 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 with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. In the mid caudal liver, there is a 1.1 cm x 2.5 cm nodule/mass of mixed echogenicity, primarily hyperechoic in echogenicity but containing multiple cysts of varying size. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

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

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.

The mesenteric and colonic lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

ULTRASONOGRAPHIC FINDINGS

- **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.

- **Reactive mesenteric and colonic lymph nodes –** infiltrative neoplastic disease cannot be ruled out but is considered less likely.

- **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.

- **Heterogeneous liver with cystic mass –** This can occur with benign processes such as nodular hyperplasia, extramedullary hematopoiesis, chronic inflammatory disease, etc. However, especially in a cat, infiltrative neoplasia including round cell neoplasia or metastatic neoplasia, etc. must also be considered. The cystic mass in a senior cat is most consistent with a benign biliary cystadenoma. However, malignancy (while considered less likely) cannot be ruled out without tissue sampling.

- Urinary bladder debris.

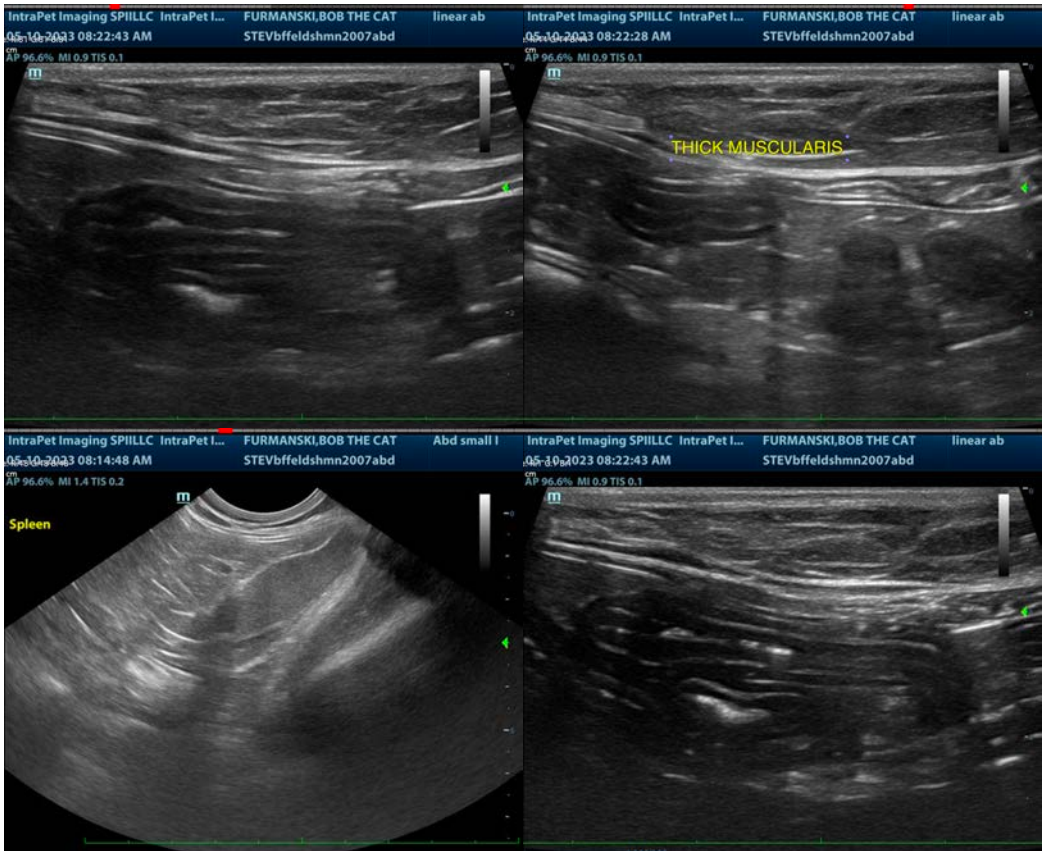
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

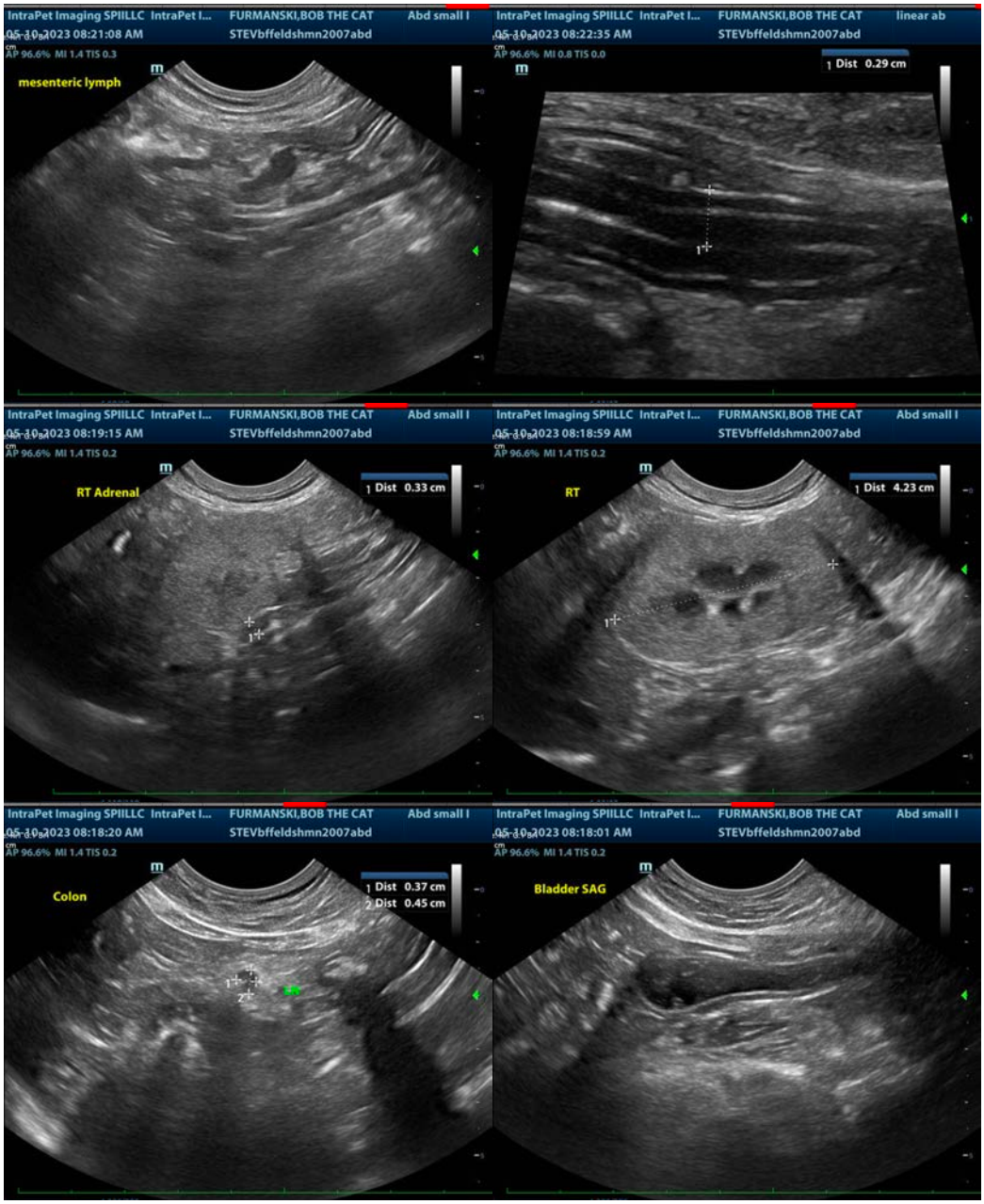
Fine needle aspirates of the liver and spleen could be considered if patient's coagulation status is appropriate. However, if a diagnosis is not obtained cytologically, ultimately biopsies of the gastrointestinal tract may be necessary for a definitive diagnosis. This patient's low cobalamin suggests infiltrative bowel disease, which warrants further investigation via biopsies if possible.

Additionally, if not recently evaluated, a T4 and free T4 could be considered as possible contributing factors to the increased ALT.

Given this patient's lack of reported clinical signs, if further diagnostics are not possible, no empirical therapy may be warranted. However, if clinical signs are present, empirical therapies could include a probiotic if diarrhea is present, such as Visbiome or Proviable, empirical deworming with a 5-day course of Panacur, and, if tolerated, a transition in diet based on trial and error response, beginning with a hydrolyzed protein diet. Some patients respond to one brand or version of hydrolyzed protein diet better than another brand, so several trials may be warranted.

Additionally, cobalamin supplementation is warranted, given this patient's low cobalamin level. Empirical antibiotics and hepatic nutraceuticals may also be helpful, given the reported liver enzyme changes.




IntraPet Imaging SPIILLC IntraPet I... FURMANSKI,BOB THE CAT Abd small I
05-10-2023 08:21:08 AM STEVbffeldshmn2007abd
AP 96.6% MI 1.4 TIS 0.3
mesenteric lymph
IntraPet Imaging SPIILLC IntraPet I... FURMANSKI,BOB THE CAT linear ab
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1 Dist 0.29 cm
IntraPet Imaging SPIILLC IntraPet I... FURMANSKI,BOB THE CAT Abd small I
05-10-2023 08:19:15 AM STEVbffeldshmn2007abd
AP 96.6% MI 1.4 TIS 0.2
RT Adrenal
1 Dist 0.33 cm
IntraPet Imaging SPIILLC IntraPet I... FURMANSKI,BOB THE CAT Abd small I
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AP 96.6% MI 1.4 TIS 0.2
RT
1 Dist 4.23 cm
IntraPet Imaging SPIILLC IntraPet I... FURMANSKI,BOB THE CAT Abd small I
05-10-2023 08:18:20 AM STEVbffeldshmn2007abd
AP 96.6% MI 1.4 TIS 0.2
Colon
1 Dist 0.37 cm
2 Dist 0.45 cm
IntraPet Imaging SPIILLC IntraPet I... FURMANSKI,BOB THE CAT Abd small I
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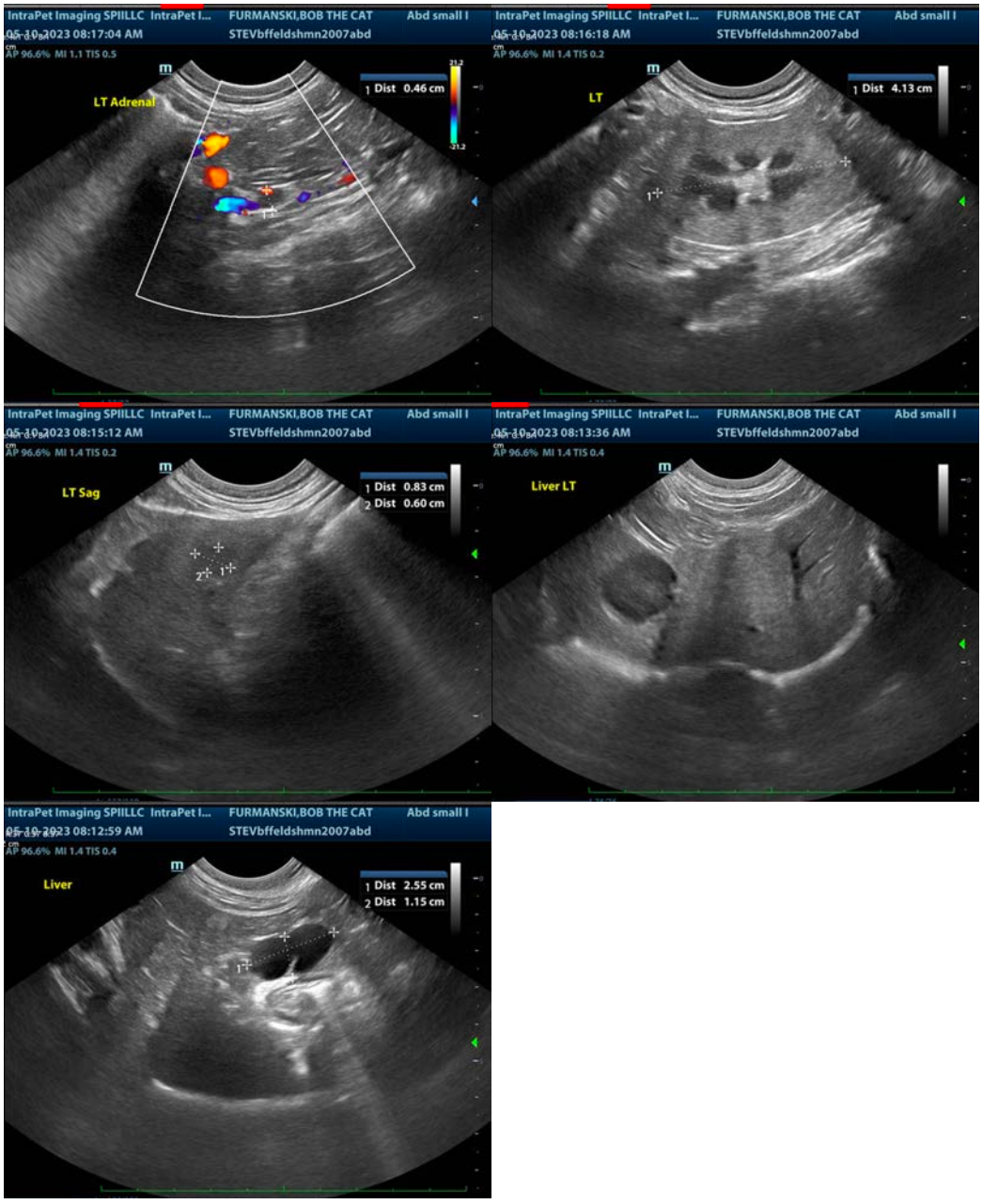
AP 96.6% MI 1.4 TIS 0.2
Bladder SAG



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