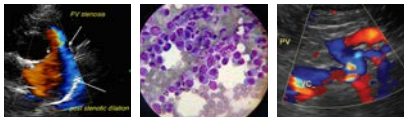
IMAGING PERFORMED BY

IntraPet.com



SonoPath

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™

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DATE

2/1/23

PATIENT

Larry Cammodari

SPECIES

Feline

BREED

DMH

SEX

Neutered Male

AGE

1/30/10

WEIGHT

6.68 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

HOSPITAL NAME

Northwind AH

REFERRING VET

Dr. Miller

INVOICE

44682

PRESENTING CLINICAL SIGNS

Chronic diarrhea, severe weight loss, inappetence, vomiting.

Current Medications: Mirtaz, Cerenia 4mg.
Lab Results: 6/22- increased Globulins, SDMA.
Radiographs: 6/22- Gas throughout small intestines.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses or inflammatory changes. A small 0.13 cm mineral cystolith is noted along the dependent wall. 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 3.27 cm. The right kidney measures 3.62 cm.

Adrenal Glands

The right adrenal gland is normal in size (0.31 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.54 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

Spleen is subjectively large in size with subtly scalloped or undulating capsular contour. Parenchyma is normal in echogenicity with a mildly coarse/heterogenous echotexture. No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged (swollen contour). Mild parenchymal remodeling with diffusely mildly coarse architecture and increased portal markings is present. Multifocal well demarcated hyperechoic homogeneous nodules are noted throughout the liver parenchyma. 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 with some echogenic suspended debris within the lumen of the gallbladder, as well as within the lumen of the cystic and common bile duct, which are at the upper end of normal dilation, measuring 0.40 cm, but can be fully traced to the level of the duodenal papilla, where there is a small accumulation of mineral debris/sand within the common bile duct at the duodenal papilla.

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 very mildly 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. It is fluid-filled.

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

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

The mesenteric 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.

PRIMARY FINDINGS

- **Scalloped spleen –** can be associated with benign or malignant infiltrative disease. Common causes include a reactive spleen secondary to immune stimulus or early infiltrative round cell neoplasia such as lymphoma or mast cell tumor.
- **Hypoechoic hepatomegaly with multifocal hyperechoic nodules** – This appearance is consistent with an acute hepatopathy or acute cholangiohepatitis. Infiltrative neoplasia (round cell neoplasia) should also be considered. The nodules likely represent benign myelolipomas. However, other differentials such as fibrosis or calcification of old hematomas or infarcts, chronic inflammation, granulomatous disease, or even metastatic disease cannot be ruled out.
- **Gallbladder debris and debris within the common bile duct up to the level of the duodenal papilla** – suggestive of current or potentially resolved/chronic cholangitis. No distention is present to suggest an obstruction.
- **Very mild 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.
- Chronic active pancreatitis
- **Reactive mesenteric lymph nodes –** infiltrative neoplastic disease cannot be ruled out but is considered less likely.

SECONDARY FINDINGS

- Small urinary bladder cystoliths
- Age related kidney changes

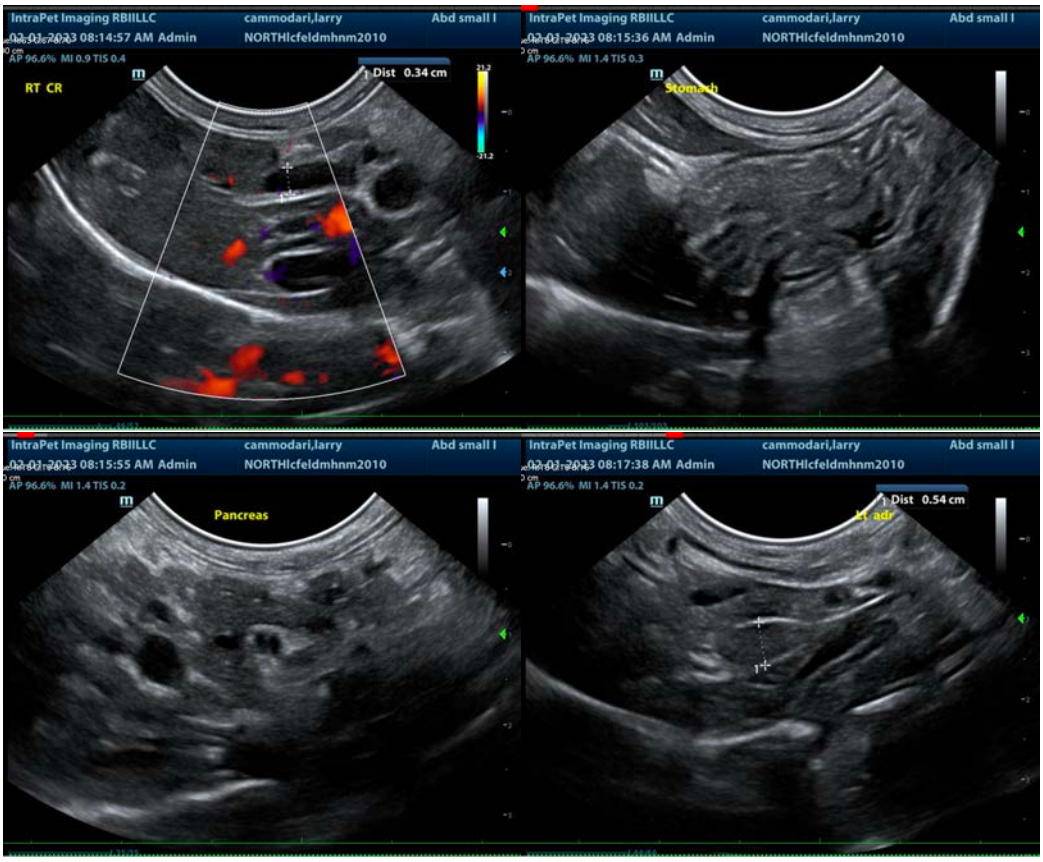
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

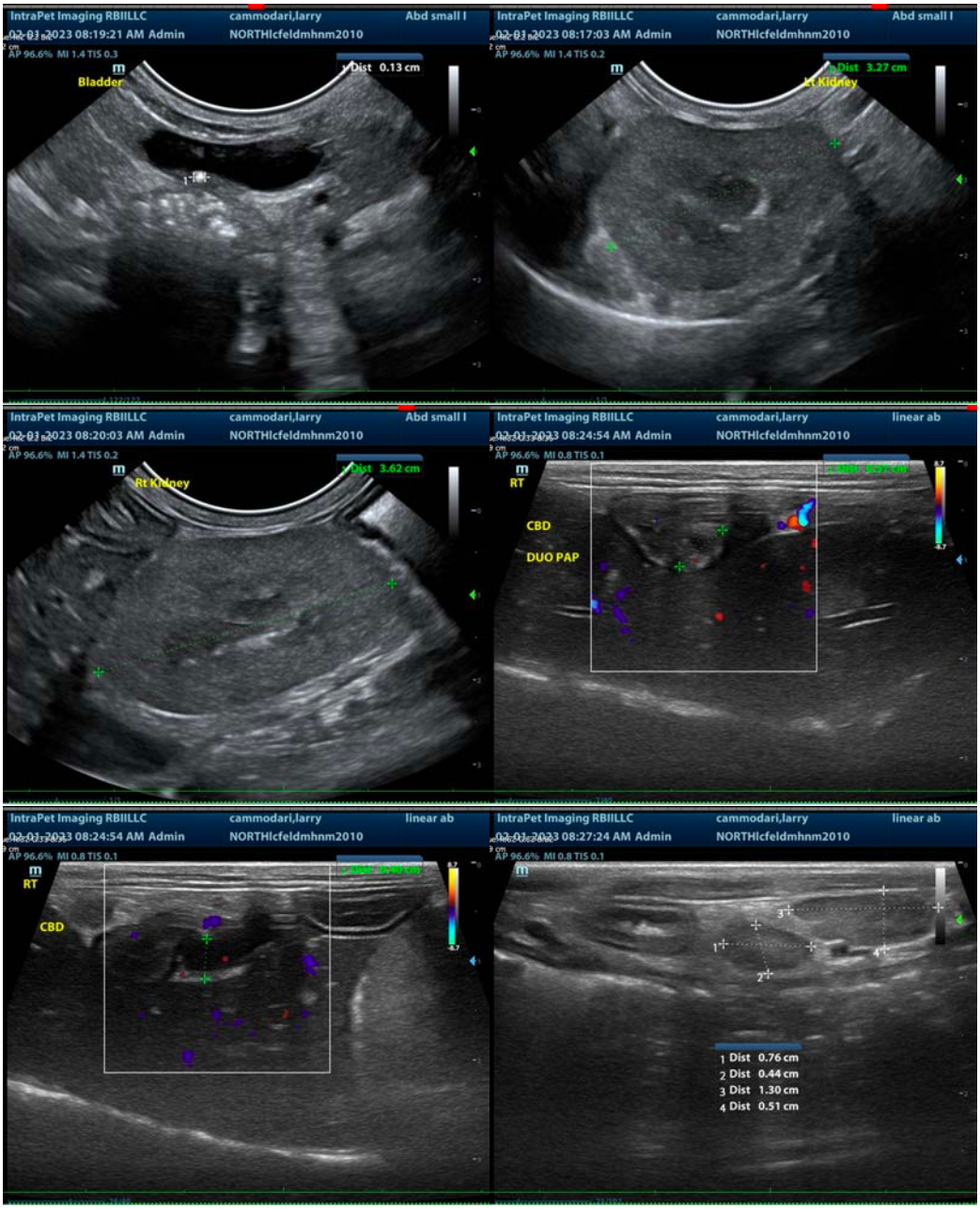
This patient may have an infiltrative bowel disease contributing to the reported gastrointestinal signs, despite the very mild change ultrasonographically. Therefore, a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

Given this patient's reported hyperglobulinemia, lymphoma is a concern, and further investigation for possible lymphoma is recommended, beginning with fine needle aspirates of both the liver and spleen if patient's coagulation status is appropriate.

Additionally, if not recently evaluated, a urinalysis and, if indicated based on urinalysis results, urine culture is recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ratio is recommended.

In the meantime, if laboratory changes are suggestive of an active cholangitis or cholangiohepatitis, then management in the form of broad-spectrum antibiotics, hepatic nutraceuticals, etc. could be considered, but are not indicated without supporting laboratory changes or clinical signs.

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Bladder
Dist 0.13 cm
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Rt Kidney
Dist 3.62 cm
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DUO PAP
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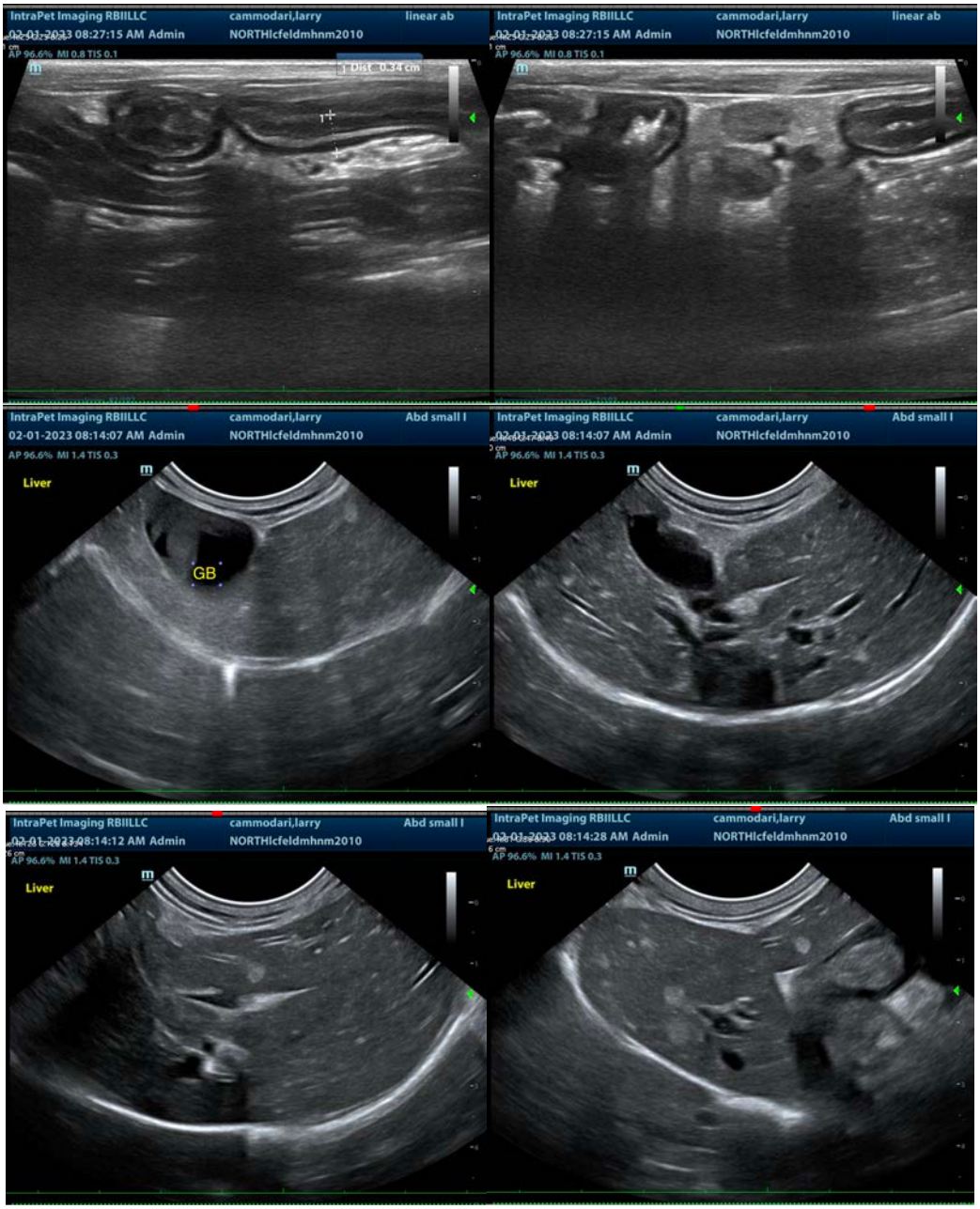
2 Dist 0.44 cm
3 Dist 1.30 cm
4 Dist 0.51 cm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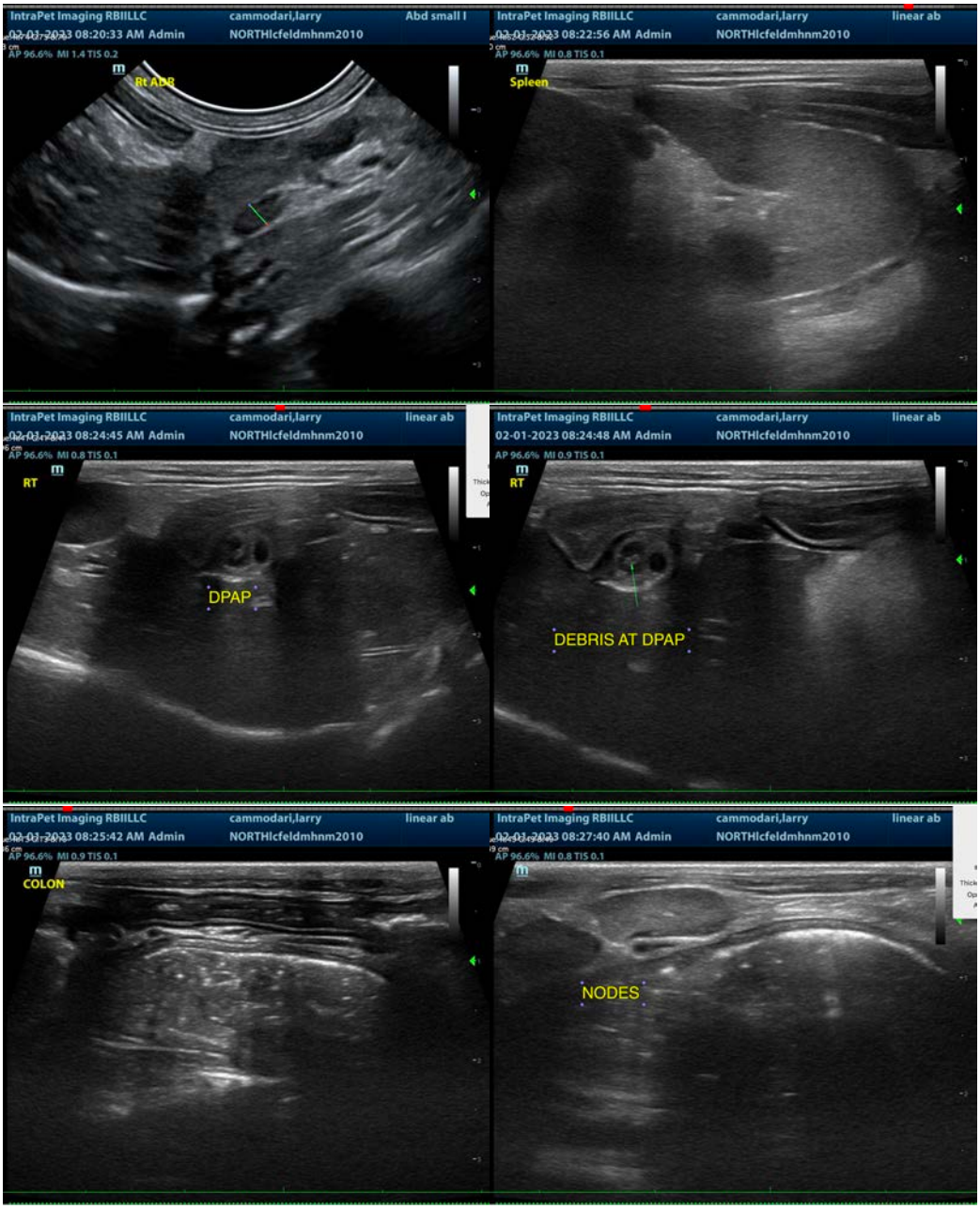
Liver



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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