

**DATE PRESENTING CLINICAL SIGNS**

11/29/22 Icterus found on wellness exam. Cat is asymptomatic.

PATIENT

Cassidy Young Current Medications: None.
Lab Results: Elevated bilirubin, AP, ALT, AST. Elevated WBC, elevated Globulin.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

SPECIES

Feline

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**BREED**

DSH

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.

SEX

Spayed Female

The right kidney is normal in size (4.11 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.

AGE

3/6/11

The left kidney is normal in size (3.88 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.

WEIGHT

9.1 Pounds

Adrenal Glands

The right adrenal gland is normal in size (0.51 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

INTERPRETED BY

Beth Johnson, DVM
DACVIM

The left adrenal gland is normal in size (0.50 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

IMAGING PERFORMED BY

Rachel Brilhart RDMS

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.

HOSPITAL NAME

Festival Vet Clinic

Liver

Liver is subjectively enlarged (swollen contour). Mild parenchymal remodeling with diffusely mildly coarse architecture and increased portal markings is present. Multifocal less than or right at 1.0 cm in diameter cystic lesions noted. Visible vasculature and biliary tree appear normal without distension or congestion.

REFERRING VET

Dr. Cianelli

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. The cystic and common bile duct are tortuous and mildly dilated at 0.54 cm. There is no evidence of effusion or inflammation.

INVOICE

43020

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 at 0.30 cm.

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.

Prominent, round, hypoechoic pancreaticoduodenal lymph nodes are noted.

ULTRASONOGRAPHIC FINDINGS

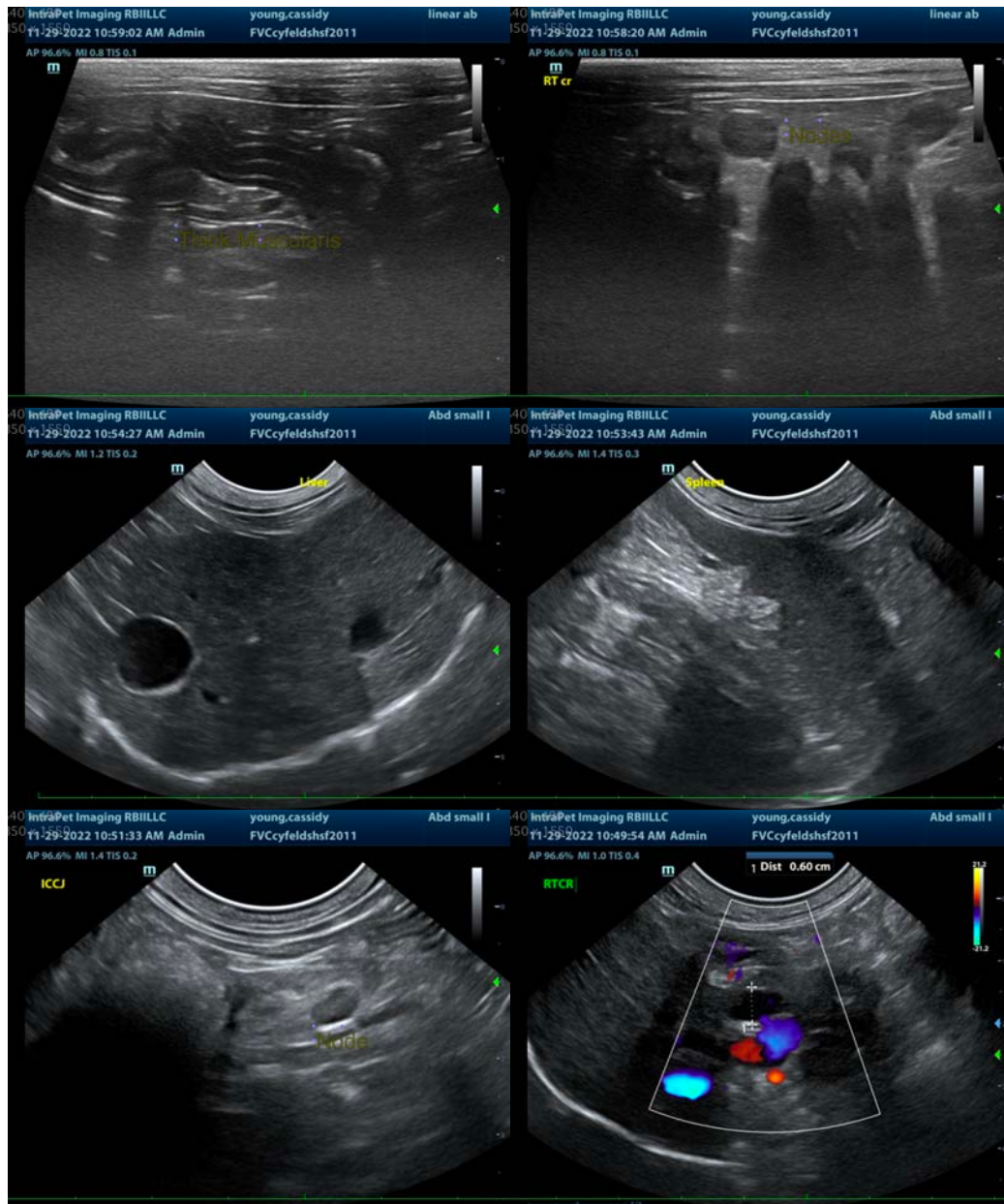
- **Hypoechoic hepatomegaly** – This appearance is consistent with an acute hepatopathy or acute cholangiohepatitis. Infiltrative neoplasia (round cell neoplasia) should also be considered.
- **Multifocal hepatic cysts** – likely incidental benign cysts. However, in a senior cat, benign biliary cystadenomas are also a consideration. Malignancy cannot be ruled out as a cause of the cysts but is considered less likely.
- **Cholecystic debris with a dilated tortuous common bile duct** – likely suggestive of chronic or potentially resolved cholangitis/cholangiohepatitis, potentially exacerbated by chronic pancreatitis. No evidence of an obstructive stone, nodule, mass, etc. observed.
- **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.
- **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.
- Chronic active pancreatitis
- **Mesenteric and pancreaticoduodenal lymphadenopathy** – Differentials include both reactive disease as well as infiltrative neoplasia and cannot be differentiated without tissue sampling.

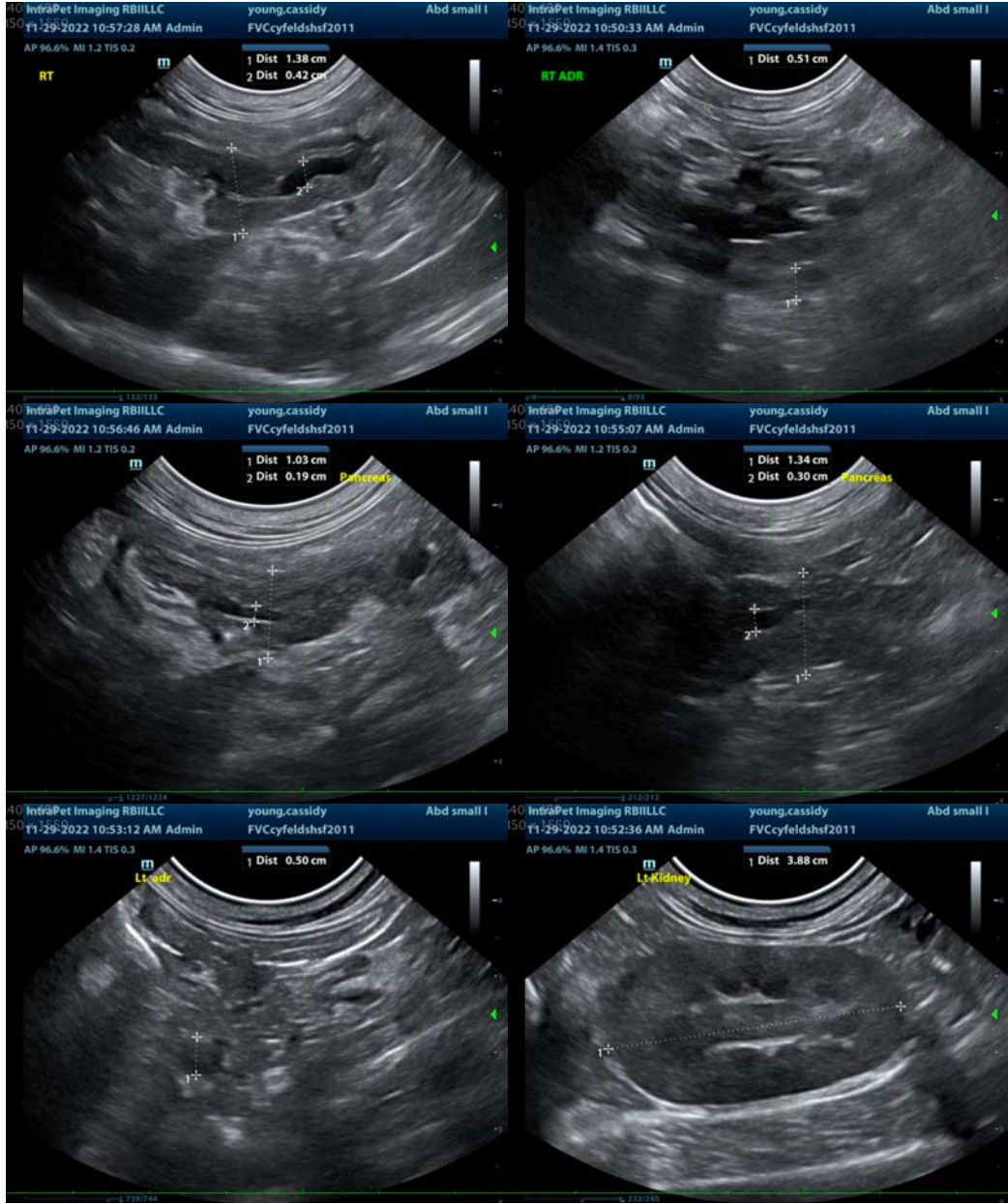
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

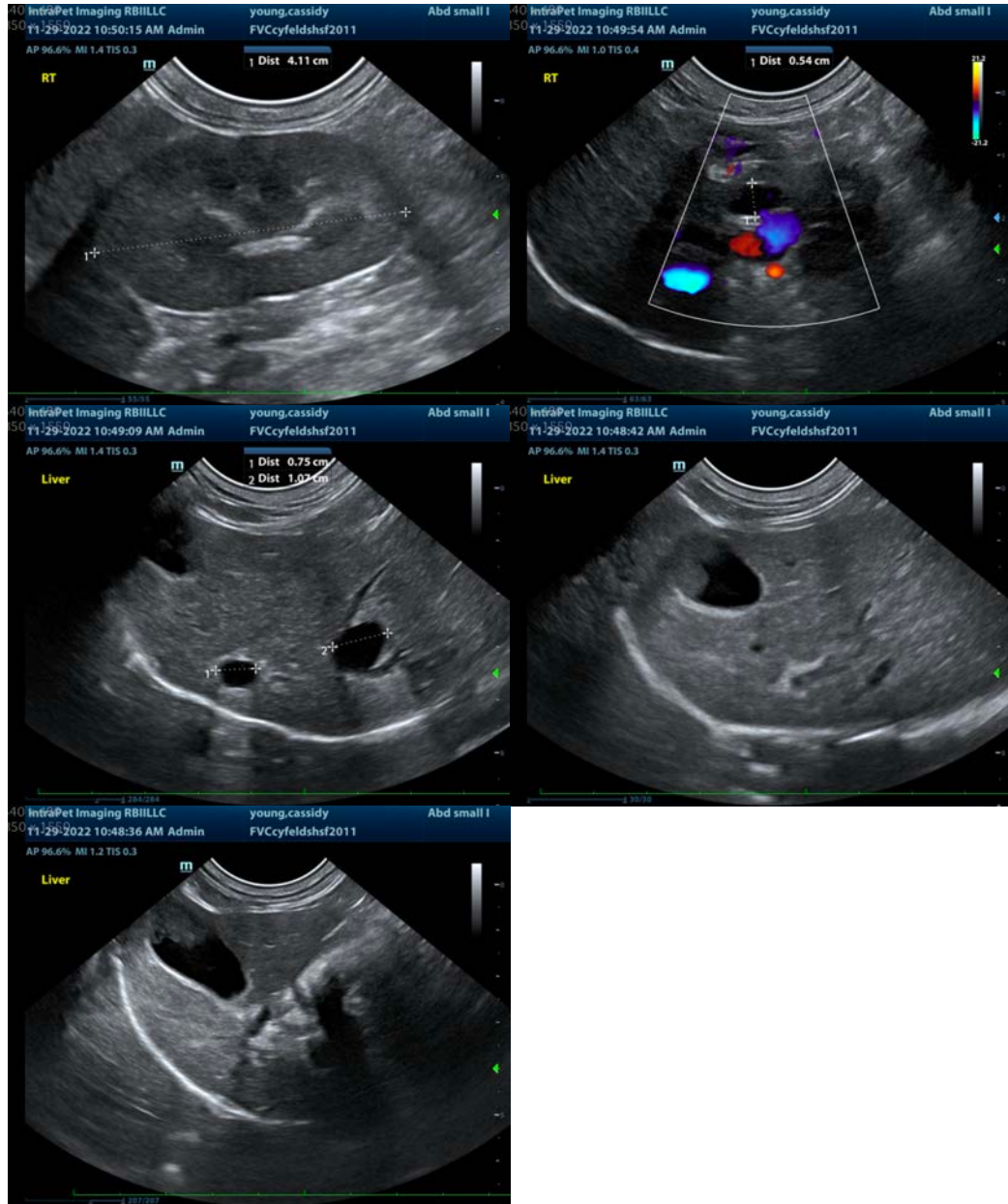
Given the combination of pathologic changes described above combined with this patient's reported hyperglobulinemia, infiltrative neoplasia such as lymphoma has to be considered. Therefore, recommendations include a fine needle aspirate of the liver as well as the spleen if patient's coagulation status is appropriate. Additionally, given bowel and pancreatic changes, 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.

If a diagnosis of lymphoma is not obtained, then empirical medical management for pancreatitis/cholangiohepatitis with hepatic nutraceuticals, broad-spectrum antibiotics, and supportive/symptomatic care is recommended with monitoring of liver enzymes for improvement.

If lymphoma is ruled out and recurrent cholangiohepatitis is suspected, given the reported eosinophilia, an underlying chronic smoldering inflammatory bowel disease could be to blame for recurrent ascending infections contributing to cholangiohepatitis. Empirical deworming with a 5-day course of Panacur is recommended, and if tolerated, transition to a hydrolyzed protein diet could be considered.







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