

**DATE PRESENTING CLINICAL SIGNS**

2/2/22

History: -Elevated liver enzymes found in Oct as preop (dental) BW; ALT 163, ALP 161, GGT 7, Tbili 1.6. Rechecked in Dec with intermittent vomiting: ALT 193, ALP 166, GGT 18, Tbili 4. Started on

PATIENT

Abbie Walsh

Denamarin/Cerenia. Generally, still eating well (not a classic HL presentation); needing to intermittently use Mirtazapine. Rechecked Jan 13; no improvement in values: ALT 204, ALP 157, GGT 13, Tibili 4.1 Started on Convenia and Marbofloxacin, maintained on Denamarin. Rechecked Jan 27 with no real improvement in values: ALT 144, ALP 174, GGT 17, GGT 17 Tbilic 3.7.

SPECIES

Feline

Current Medications: Mirtazapine 3.75 mg q 72 hr PRN for appetite, Cerenia 16 mg PO q 24 hr PRN for nausea/vomiting. Denamarin: cat dose q 24 hr x 1 month. Marbofloxacin 25 mg q 24 hr, Convenia 8 mg/kg SQ once 2 weeks prior.

BREED

DSH

Date of Previous IntraPet Ultrasound: No previous IntraPet scans. Sedation: Not required to complete full diagnostic ultrasound. Stat Report: Not requested.

SEX

Neutered Male

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System****AGE**

7/25/12

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.

WEIGHT

16.9 Pounds

The right kidney is normal in size (4.78 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.

INTERPRETED BYBeth Johnson, DVM
DACVIM

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.

IMAGING PERFORMED BY

Rachel Brilhart RDMS

Adrenal Glands

The right adrenal gland is normal in size (0.55 cm thick), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

HOSPITAL NAME

Paradise AH

The left adrenal gland is normal in size (0.52 cm thick), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

REFERRING VET

Dr. Riehl

Spleen

Spleen is subjectively enlarged in size with rounded margins but intact capsule. Parenchyma is homogeneously coarse/mottled in echotexture and normal to hypoechoic in echogenicity. No focal nodules or masses are observed. Splenic vasculature appears normal.

INVOICE

35386

Liver

Liver is subjectively enlarged. Margins are smooth but round. 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. No focal lesions are observed. 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. Thick hyperechoic cystic duct and common bile duct walls noted with tortuous cystic duct

and mild duct dilation, but not more than what is considered normal for a cat (<4.0 mm luminal distention). Hyperechoic/reactive mesentery is present around the biliary system and 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 intestines are normal in wall thickness. Normal layering is maintained except for a diffusely disproportionately thick muscularis layer relative to mucosa. 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

Pancreas is prominent in size and mildly irregular in shape with a diffusely coarse echotexture and heterogenous to hypoechoic echogenicity. The pancreatic duct is mildly dilated, but not beyond what is considered normal for a cat. It is <0.25 cm dilated.

Free Abdomen

There is no evidence of peritoneal effusion. Prominent hypoechoic hepatic and mesenteric lymph nodes are noted.

ULTRASONOGRAPHIC FINDINGS

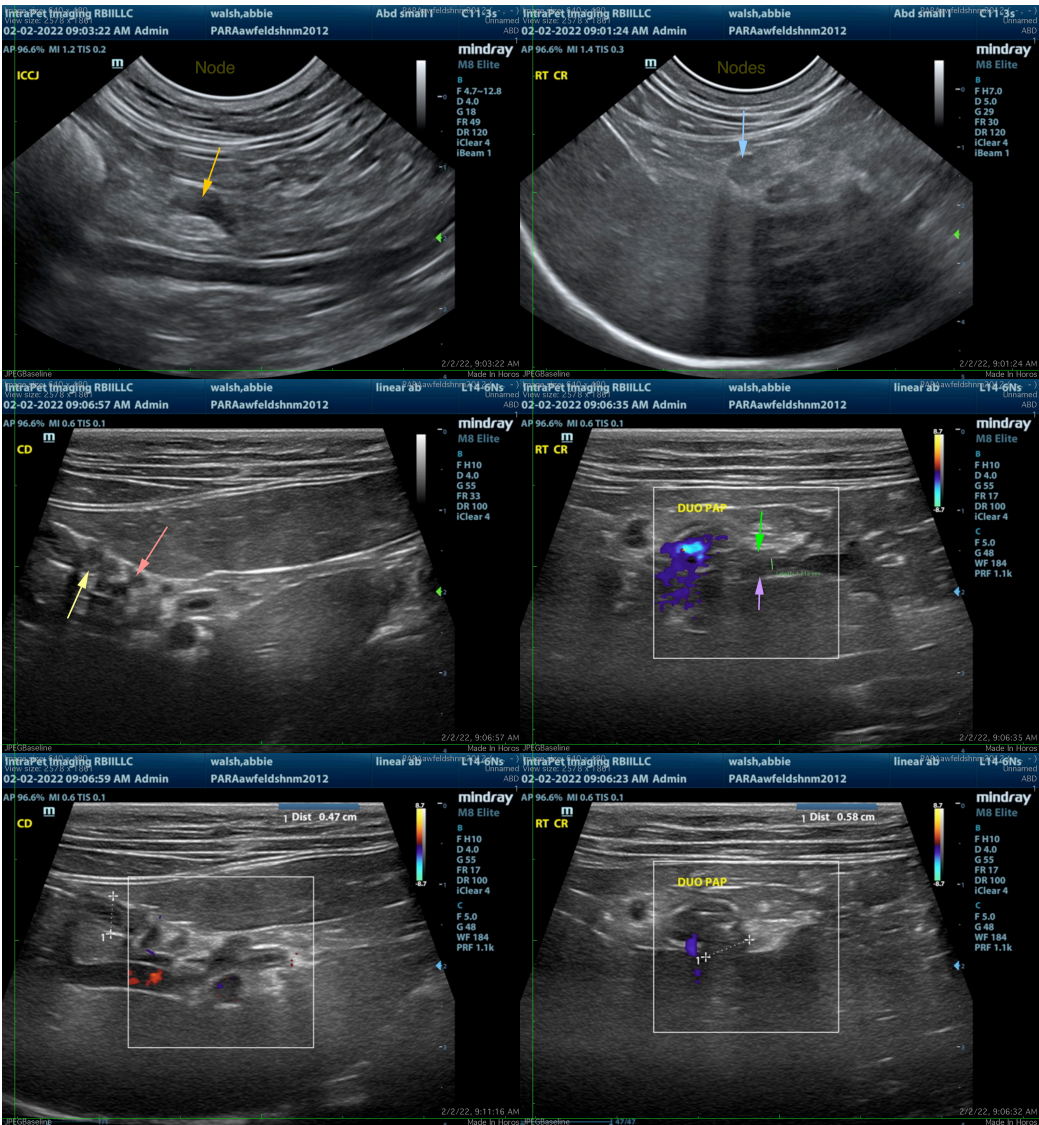
- Hyperechoic hepatomegaly – consistent with benign hepatic lipidosis. Infiltrative disease such as amyloidosis or neoplasia, such as mast cell tumor or less likely, lymphoma, is also possible.
- Coarse splenomegaly – can be associated with congestion caused by sedation (if sedated) but can also be associated 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.
- Prominent heterogenous pancreas – This finding is most consistent with chronic pancreatitis.
- Thick muscularis – This finding has been reported in cats with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma.
- Thick, hyperechoic biliary system walls with a tortuous cystic and common bile duct with hyperechoic reactive tissue surrounding the biliary system. No evidence of obstruction is appreciated.
- Most likely reactive hepatic and mesenteric lymphadenopathy. Infiltrative neoplasia can't be ruled out, but is considered less likely.

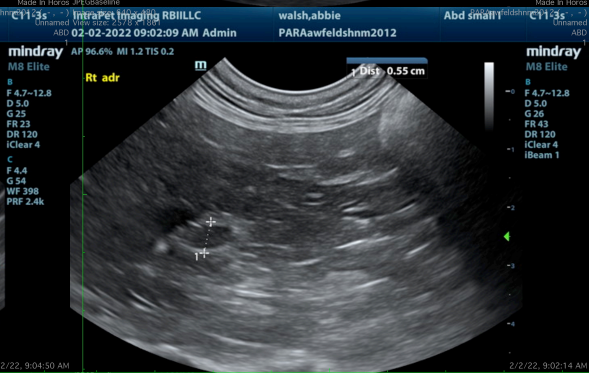
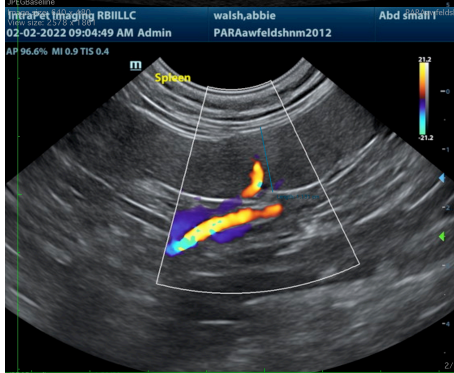
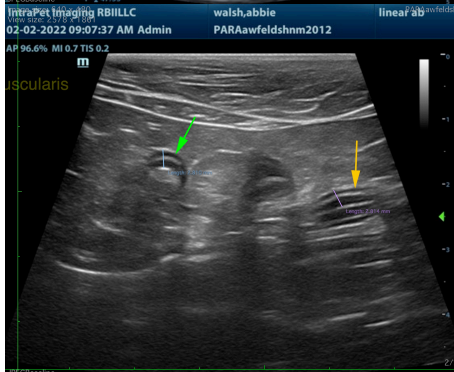
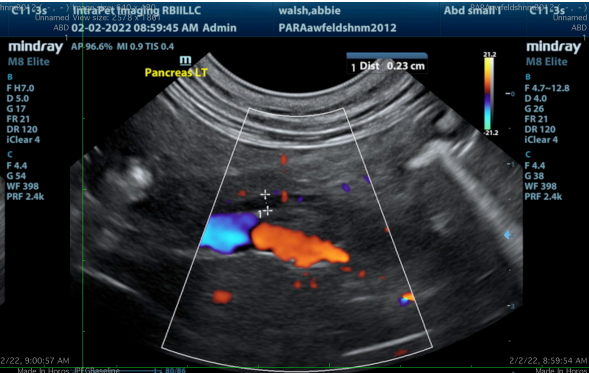
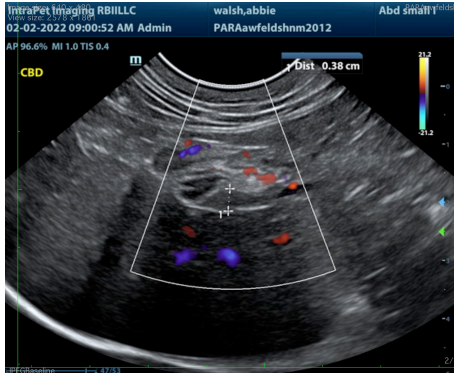
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

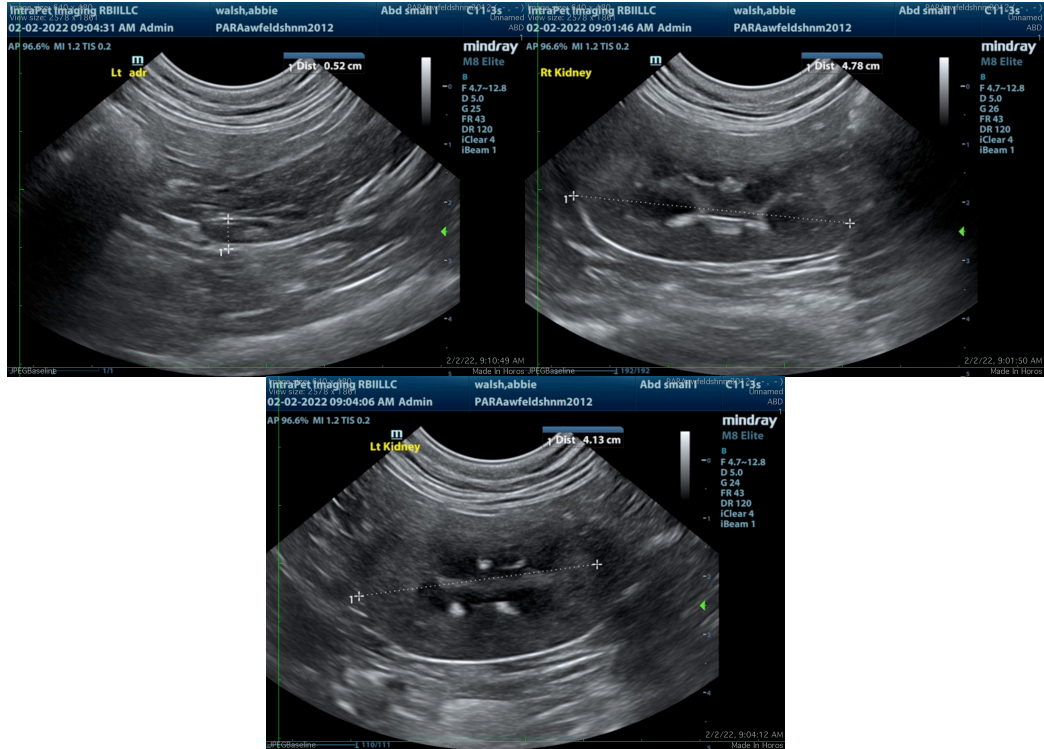
The overall assessment of this patient, given the history, clinical signs, laboratory changes, and ultrasound findings, is of Triaditis with evidence of chronic pancreatitis, cholangitis/cholangiohepatitis, and potentially inflammatory bowel disease/ other infiltrative bowel disease, given the mildly thick muscularis.

Recommendations include a fine needle aspirate of the spleen and liver if patient's coagulation status is appropriate to definitively rule out infiltrative round cell neoplasia, in addition to a gastrointestinal malabsorption panel to include PLI, TLI, folate and cobalamin for further assessment of gastrointestinal and pancreatic health. In the meantime, medical management could include more aggressive medical management of the presumed cholangitis, involving IV fluid therapy and IV antibiotics, given the mild improvement with oral versions.

Empirical steroids could also be considered as an anti-inflammatory, if more aggressive medical management does not result in further improvement of laboratory values and clinical signs.







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