

**DATE PRESENTING CLINICAL SIGNS**

2/2/22

History: Chronic weight loss, vomiting, diarrhea. Hx hyperthyroidism, well controlled with Felimazole 2.5 mg PO BID. Currently on Prednisolone PO, no improvement in signs.

**PATIENT**

Jack Velte

Current Medications: Felimazole 2.5 mg PO BID, Prednisolone 5 mg PO SID, Cerenia 8 mg PO SID.

Lab Results: Alb 2.0L, Glob 2.1L, HCT 21%, regenerative.

Date of Previous IntraPet Ultrasound: No previous IntraPet scans.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

**SPECIES**

Feline

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****BREED**

DSH

**Urinary System**

Urinary bladder is moderately distended. It has a normal uniform wall thickness (<0.2 cm). Contents include primarily anechoic fluid combined with suspended echogenic non-shadowing debris within the fluid. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

**SEX**

Neutered Male

The right kidney is normal in size (3.53 cm) 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 echogenicity and mild loss of corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

**AGE**

3/1/06

**WEIGHT**

9.6 Pounds

The left kidney is normal in size (3.59 cm) 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 echogenicity and mild loss of corticomedullary distinction. There is no evidence of pyelectasia or mineral. Two chronic infarcts noted in the cranial pole.

**INTERPRETED BY**Beth Johnson, DVM  
DACVIM**Adrenal Glands**

The right adrenal gland is normal in size (0.53 cm thick), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**IMAGING PERFORMED BY**Stephanie Pearce  
RDMS, RVT

The left adrenal gland is normal in size (0.40 cm thick), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**HOSPITAL NAME**

Timonium AH

**Spleen**

The spleen is subjectively small in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

**REFERRING VET**

Dr. McIntyre

**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. A 1.2 cm x 1.6 cm hypoechoic nodule is seen in the deep right liver. The nodule contains a hyperechoic center. Visible vasculature and biliary tree appear normal without distension or congestion.

**INVOICE**

35396

The gallbladder is mildly distended with anechoic bile and gravity dependent, echogenic sediment. The wall is smooth without visible thickening. The cystic and common bile ducts are tortuous, but not overdistended. There is no evidence of effusion or inflammation.

### ***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***

The pancreas is prominent in size and mildly irregular in shape with a diffusely coarse echotexture and heterogeneous to hypoechoic echogenicity. In the caudal right limb of the pancreas, there is a focal hypoechoic nodule noted.

### ***Free Abdomen***

There is no evidence of peritoneal effusion. Hypoechoic, heterogeneous mesenteric lymphadenopathy is appreciated with a representative node measuring 1.6 cm x 0.7 cm.

## **ULTRASONOGRAPHIC FINDINGS**

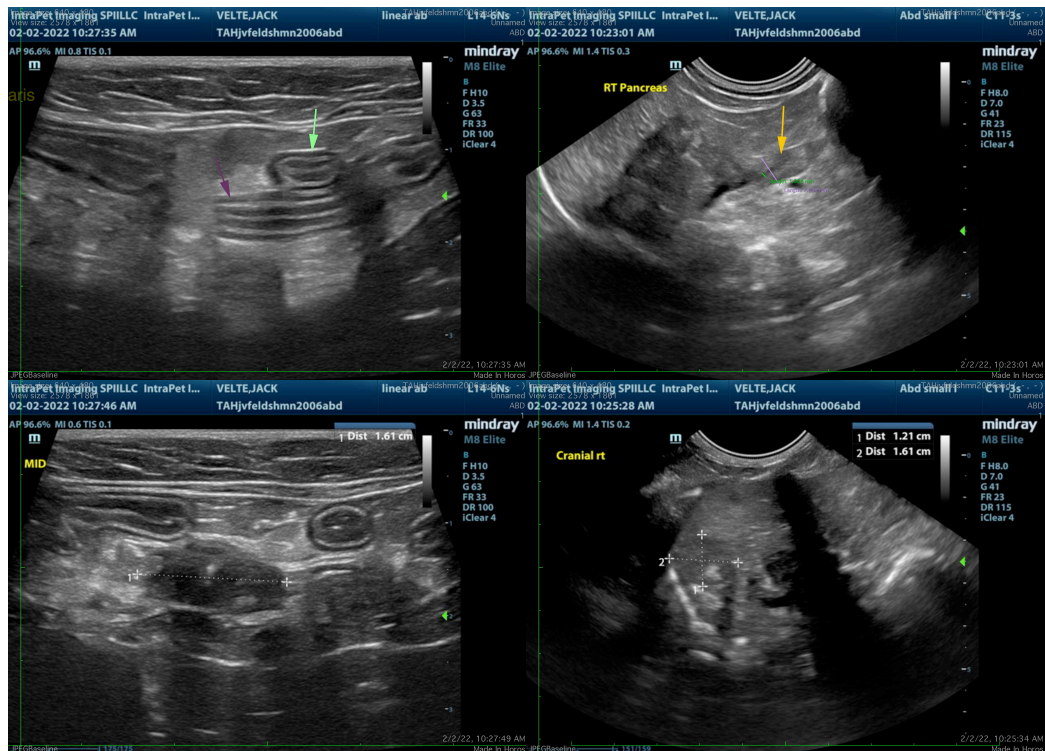
- Hyperechoic hepatomegaly – consistent with benign hepatic lipidosis. Infiltrative disease such as amyloidosis or neoplasia, such as mast cell tumor or less likely, lymphoma, is also possible.
- One focal hypoechoic hepatic nodule containing hyperechoic center – This could be considered a target lesion, which can be associated with benign disease, but are most commonly indicative of malignancy. Other differentials for the liver nodule include benign nodular hyperplasia, granuloma, or infiltrative round cell or metastatic neoplasia.
- Cholecystic debris of unknown clinical significance – This can be seen with biliary stasis from fasting or illness. However, it can also be associated with hepatobiliary disease in cats and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort, and/or laboratory changes such as increased Alk Phos and/or increased total bilirubin. The tortuous common bile duct is a normal age variant.
- Age related pancreatic remodeling with nodule – Most consistent with nodular hyperplasia.
- Urinary bladder sediment – Urine changes are most consistent with incidental suspended lipid in a cat, however, cellular debris or crystalluria cannot be ruled out and should be interpreted in combination with urinalysis results.
- 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.
- Chronic infarcts in left kidney
- Small spleen – Suggestive of hypovolemia

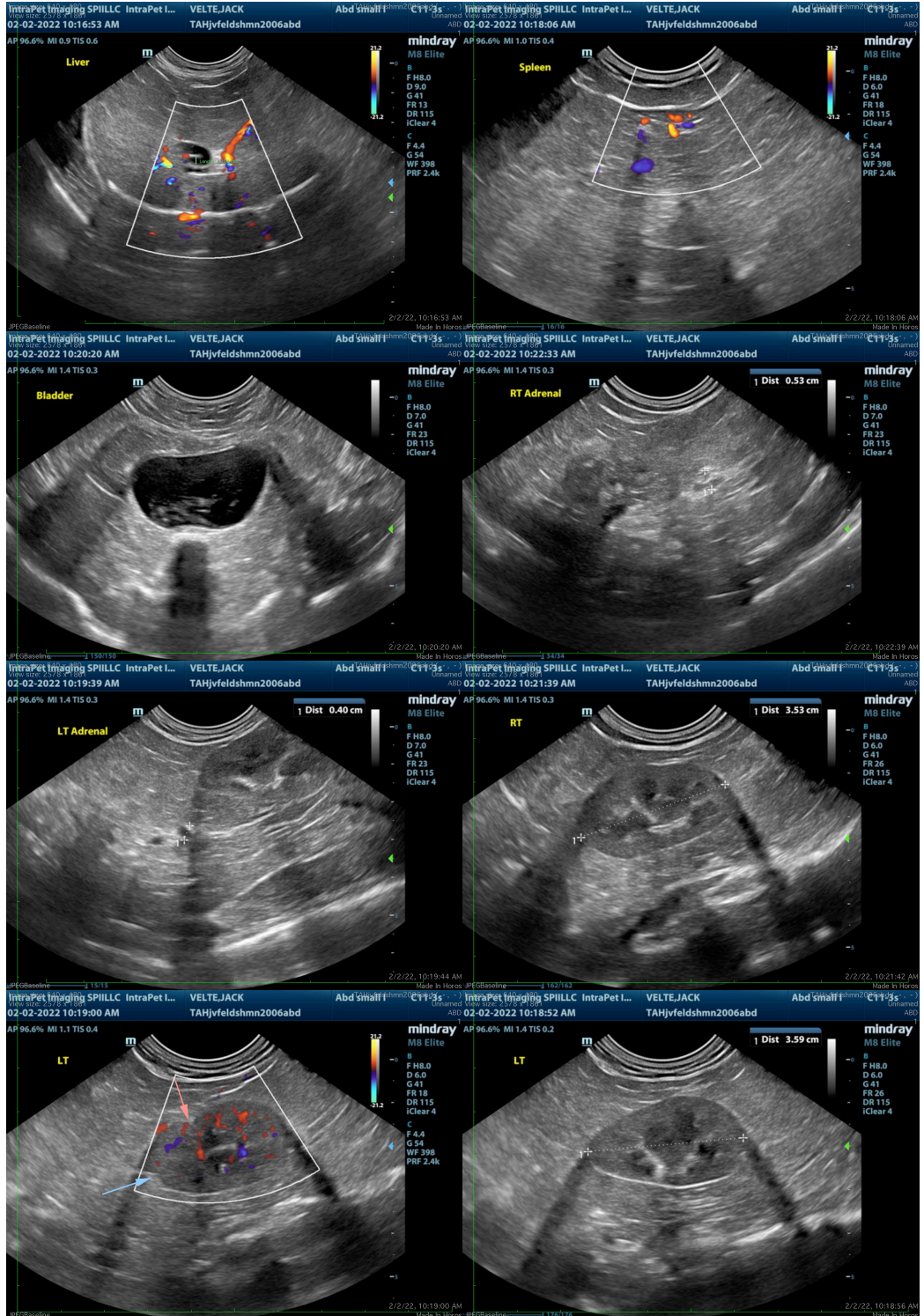
- Heterogeneous, hypoechoic mesenteric lymph node – Concerning for infiltrative neoplasia. However, benign reactive lymphadenopathy cannot be ruled out.

### INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient’s clinical signs combined with the lack of improvement on Prednisone and the multifocal abnormalities as described above, infiltrative neoplasia such as lymphoma is high on the list of differentials. Recommendations include a fine needle aspirate of the diffuse liver changes as well as the liver nodule and enlarged mesenteric lymph node if patient’s coagulation status is appropriate. A urinalysis and urine culture are recommended given the urinary bladder changes. A gastrointestinal malabsorption panel including TLI, PLI, folate and cobalamin to Texas A&M GI laboratory to further assess the gastrointestinal tract as well as the pancreas is warranted if not previously performed.

Ultimately, if round cell neoplasia is not diagnosed via cytology, biopsies of the bowel, lymph node and liver may be necessary to diagnosis and medical manage this patient. If biopsies are not an option, further empirical therapy could include adding cobalamin to the current management of suspected inflammatory bowel disease as well as potentially adding additional immunosuppressants such as Chlorambucil in case this is lymphoma.





**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