

**DATE PRESENTING CLINICAL SIGNS**

2/15/23

PE 1/27/23 pet is doing well at home. Since diagnosed with GI lymphoma 06/21 pet has been maintained on prednisolone and is doing well. BAR and apparently adequately hydrated. Skin between the eyes and ears did appear to be a little icteric in appearance but not appreciated on the mm or sclera. Owner thought that pet's skin looked a

**PATIENT**

Titus Wynne

little yellow as well and so bloodwork was elected. Bloodwork revealed elevated ALP and bilirubin as well as CBC abnormalities and so we discussed repeat abdominal US to better assess pet.

**SPECIES**

Feline

Current Medications: prednisolone 2.5mg EOD--started 06/2021, Fluoxetine 2.5mg PO SID--started 06/2017

**BREED**

DSH

Lab Results: 1/28/23: RBC: 4.49M/uL (7.12-11.46); Hematocrit: 22.1% (28.2-52.7); Hemoglobin: 7.9g/dL (10.3-16.2); MCH: 17.6pg (12.6-16.5); WBC: 34.7K/uL (3.9-19); Neutrophils: 15.268K/uL (2.62-15.17); Lymphocytes: 18.391K/uL (0.85-5.85); Monocytes: 1.041K/uL (0.04-0.53); Eosinophils: 0K/uL (0.09-2.18); Platelets appear moderately decreased on blood film. SDMA: 24ug/dL (0-14); BUN: 15mg/dL (16-37); ALP: 262U/L (12-59); Total Bilirubin: 2.5mg/dL (0-0.3); Bili-conj: 1.5mg/dL (0-0.2); Bili-unconj: 1mg/dL (0-0.2);

**SEX**

Neutered Male

Pathology Review of CBC: see attached

Date of Previous IntraPet Ultrasound: 6/16/21. See attached.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Declined at this time.

Imaging Performed By: Stephanie Warga RDCS, RVT.

**AGE**

8/5/08

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****WEIGHT**

11.63 Pounds

**Urinary System**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

**INTERPRETED BY**

Kathleen Sennello DVM,  
MS, Diplomate ACVIM  
(Small Animal Internal  
Medicine)

The left kidney has a normal shape and size (4.13 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**HOSPITAL NAME**

Westminster VH

The right kidney has a normal shape and size (4.86 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**REFERRING VET**

Dr. Hall

**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.32 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**INVOICE**

45154

The right adrenal gland is normal in size measuring 0.37 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**Spleen**

The spleen is large (1.12 cm in width at the level of the hilus) and hypoechoic, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

### ***Liver***

The liver is large with smooth peripheral margins. The parenchyma is hyperechoic and homogenous in echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

### ***Gastrointestinal***

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.36cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall thickness is severely increased. Bowel loops follow a typical curvilinear path. Some areas have reduced detail of wall layering with mucosal fogging. Jejunum wall measures 0.36 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

### ***Pancreas***

The pancreas is prominent and hypoechoic as compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid. Prominent pancreatic duct noted.

### ***Free Abdomen***

There is a small to moderate amount of free abdominal fluid. There is a moderate to severe diffuse mesenteric lymphadenopathy, with the largest lymph nodes being at the mesenteric root, measuring 2.34 cm x 1.39 cm, 1.79 cm, and 2.58 cm. Additionally, there are lymph nodes in the cranial abdomen. One near the pancreas measures 1.35 cm x 2.2 cm. The omentum is generally hyperechoic.

### ***Thorax***

The right auricle and pericardium were visualized and were unremarkable. No obvious pathology is visualized. If cardiac function evaluation is desired a full echocardiogram is warranted.

There is a moderate amount of pleural effusion visualized both cranial to the diaphragm and in the left cranial thorax. Additionally, there is an area of focal hypoechoic tissue measuring approximately 2.79 cm x 1.36 cm in the region of the mediastinum. This is most consistent with a discrete hypoechoic, solid mediastinal mass lesion or a large lymph node.

Ringdown artifact is visualized at the level of the diaphragm. This is most consistent with pulmonary parenchymal disease.

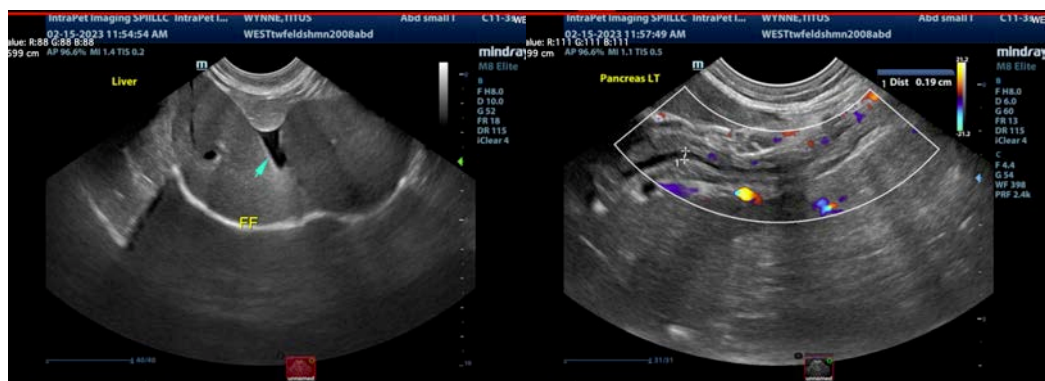
## **ULTRASONOGRAPHIC FINDINGS**

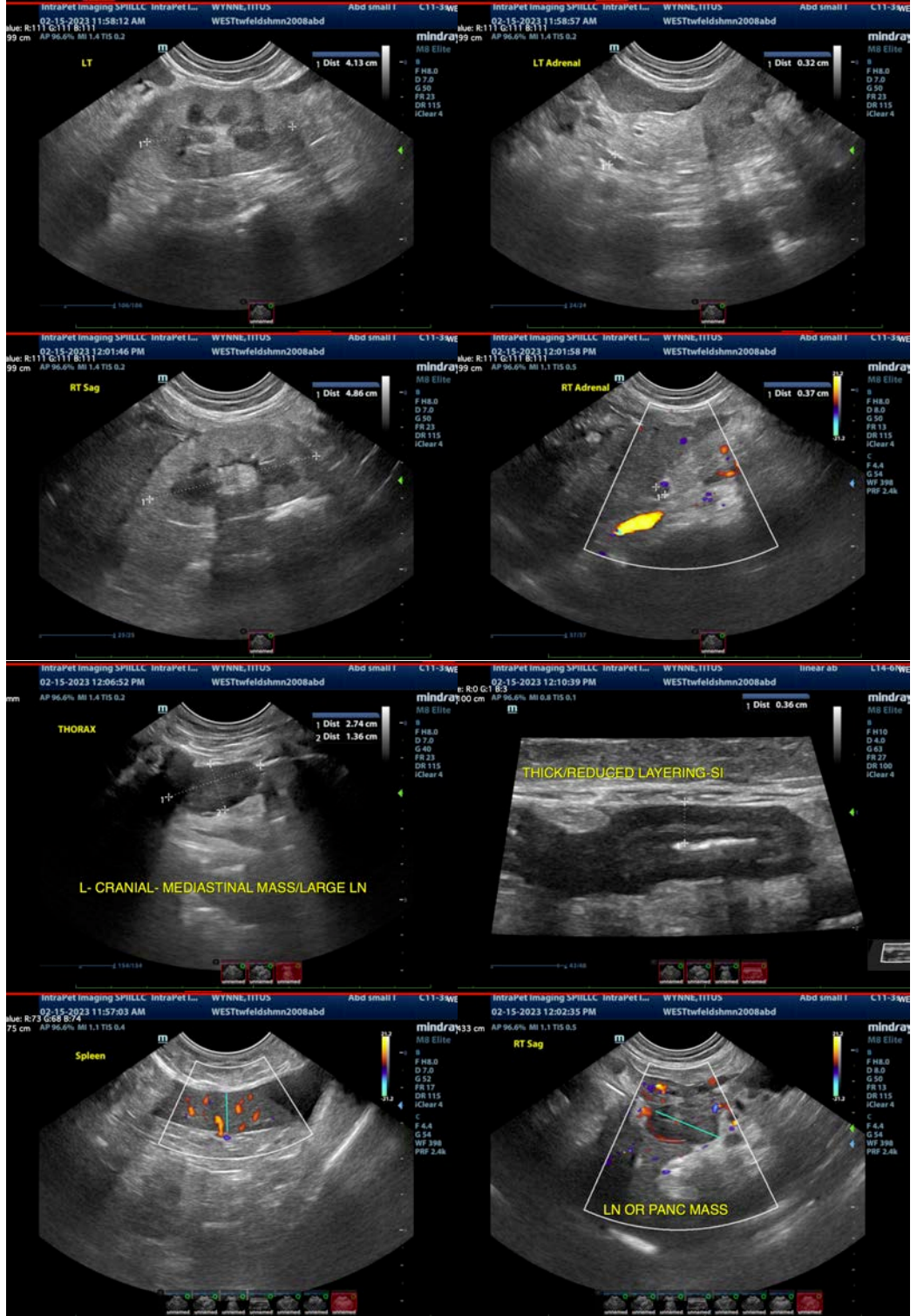
- Large hypoechoic spleen – Findings could be consistent with congestion, sedation, or infiltrative disease. Concern is high for round cell neoplasia. Consider a fine needle aspirate.
- Prominent, hypoechoic pancreas with prominent pancreatic duct – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

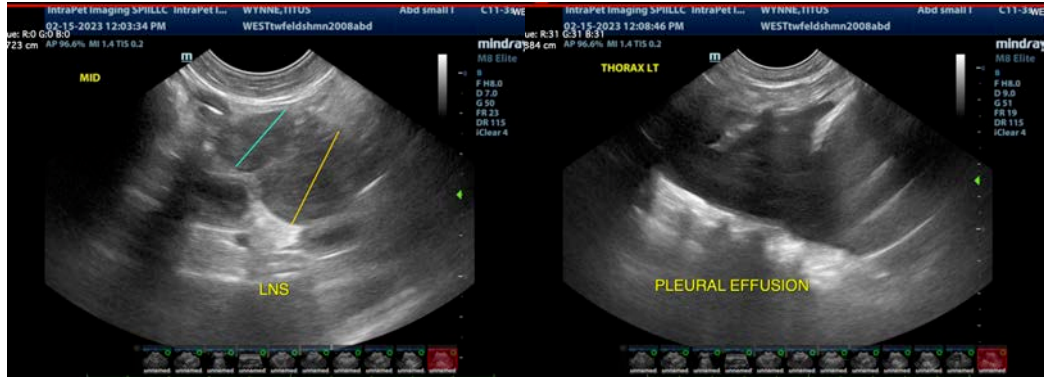
- Large hyperechoic liver – Hepatic changes are non-specific and could be consistent with hepatic lipidosis, inflammatory/infectious disease, infiltrative neoplasia, or other hepatopathy. Infiltrative round cell neoplasia would be the primary differential. Recommend fine needle aspirate.
- The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia. A reduction in the detail of wall layering favors either severe intestinal disease or neoplastic infiltration. Biopsy is recommended.
- Severe mesenteric lymphadenopathy – The severe mesenteric lymphadenopathy is most concerning for a neoplastic process, although you can see significant lymphadenopathy in some cases of autoimmune/inflammatory disease, infectious disease (tick born disease-such as bartonella, fungal infections, FIP (cats)) etc. A fine needle aspirate with cytology is recommended for further evaluation.
- Free fluid visualized in the abdominal and thoracic cavity – Findings are consistent with a bi-cavitary effusion.
- Focal hypoechoic rounded mass effect in the left cranial thorax – Findings are most consistent with an enlarged lymph node or mediastinal mass.

### **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Unfortunately, the combination of the ultrasonographic findings with the bloodwork results is most consistent with lymphoma, which has progressed to further organ involvement and is likely present cranial to the diaphragm. Consider a fine needle aspirate of the liver +/- spleen, lymph node, etc., and consider consultation with a veterinary oncologist regarding chemotherapeutic options. Additionally, monitor respiratory effort and rate, and recommend 3-view thoracic radiographs, as a thoracocentesis may need to be performed therapeutically.







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.

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