

IMAGING PERFORMED BY

IntraPet.com



**DATE PRESENTING CLINICAL SIGNS**

3/1/22

2/27/22- not interested in eating kibble recently- will eat scrambled egg and moist dog food. Have been very energetic. Was at the rdvm 2 days ago- slight fever so gave SQ fluids- discussed having BW performed if continues to seem unwell. Seemed to have slight lameness on RH, daughter thought that she appeared lame on the forelimbs as well. Owner noted that he did see clear discharge from her nose at one point. On flea, tick and HW prevention but is known to run around a farm- possible for ticks.

**PATIENT**

Ruby Stewart

**SPECIES**

Canine

Current Medications: Provable, Doxycycline.

Lab Results: See attached.

Radiographs: Feces in colon. Mild gassy changes in colon and intestines. No obvious obstruction.

Splenomegaly.

**BREED**

Mixed

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

**SEX**

Spayed Female

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**AGE**

2/27/21

**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, or masses. There is a small pile of dependent mineralized sandy debris visualized.

**WEIGHT**

39.7 Pounds

The left kidney has a normal shape and size (6.2 cm). Overall echogenicity is slightly hyperechoic with mildly decreased corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**INTERPRETED BY**

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

The right kidney has a normal shape and size (6.05 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**IMAGING PERFORMED BY**

Rachel Brilhart RDMS

**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.53 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.

**HOSPITAL NAME**

Animal Emergency  
Hospital

The right adrenal gland is normal in size measuring 0.66 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.

**REFERRING VET**

Dr. Nacke-Horney

**Spleen**

The spleen is large in size. The spleen echotexture is heterogenous and mottled, 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.

**INVOICE**

35788

**Liver**

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. 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 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 <0.7cm 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 relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

### ***Free Abdomen***

There is no significant free fluid. There are enlarged lymph nodes visualized within the abdomen with a very large portal lymph node measuring at 1.11 cm x 4.07 cm, and a sublumbar lymph node measuring 1.01 cm x 2.62 cm. The omentum is generally of normal echogenicity.

## **PRIMARY FINDINGS**

- Moderate mesenteric lymphadenopathy - The moderate mesenteric lymphadenopathy is concerning for a possible neoplastic process, although you can see significant lymphadenopathy in some cases of autoimmune/inflammatory disease, infectious disease, tickborne disease, fungal infections, etc. A fine needle aspirate with cytology is recommended for further evaluation.
- Heterogeneous liver - The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Large, mottled spleen - The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Mildly reduced corticomedullary distinction of the kidneys - Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.

## **SECONDARY FINDINGS**

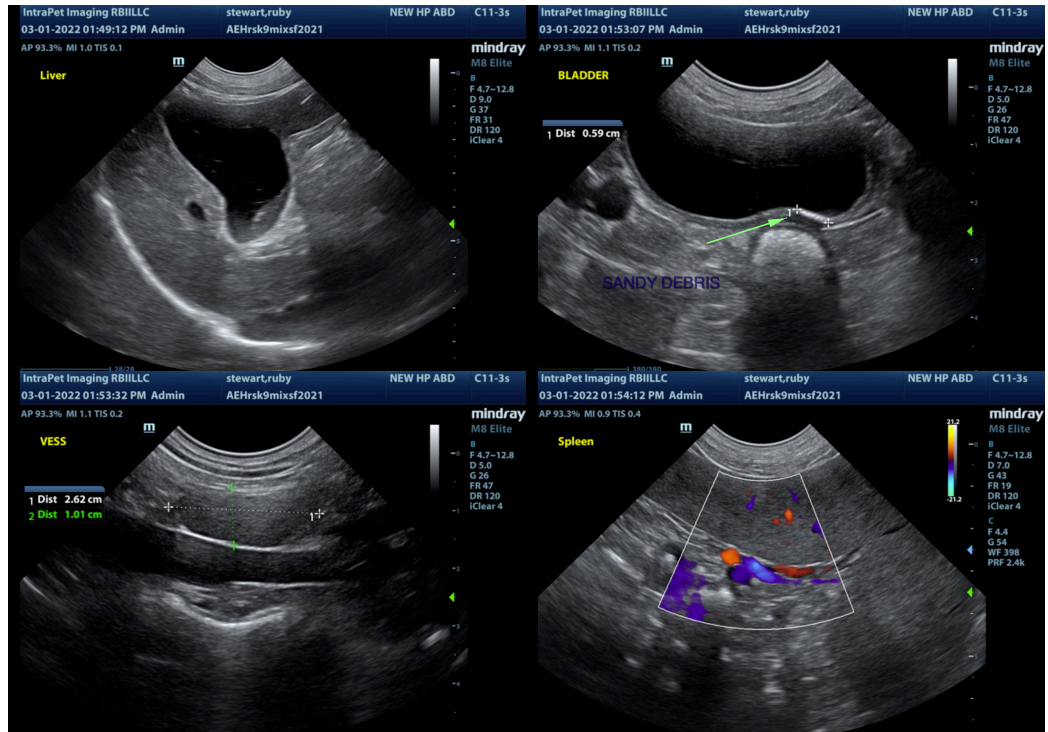
- Small amount of sandy dependent debris in the urinary bladder - The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus.

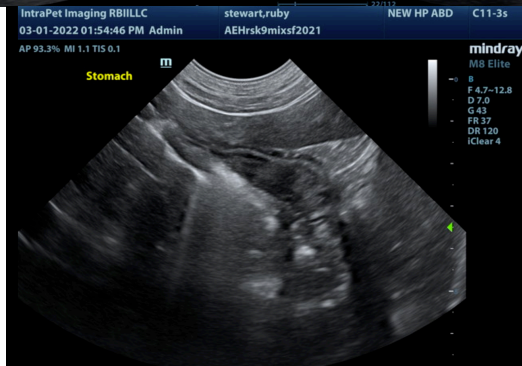
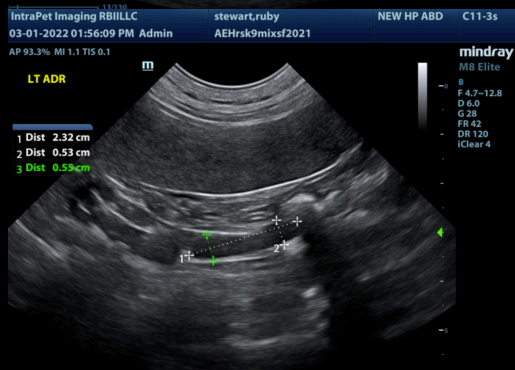
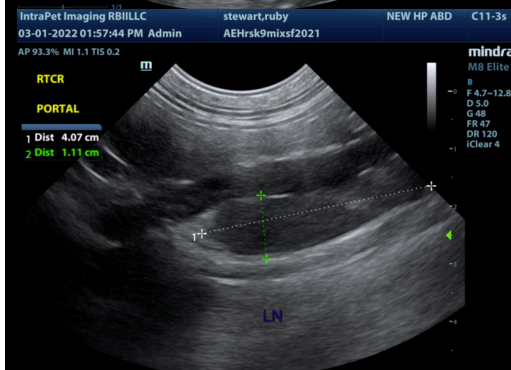
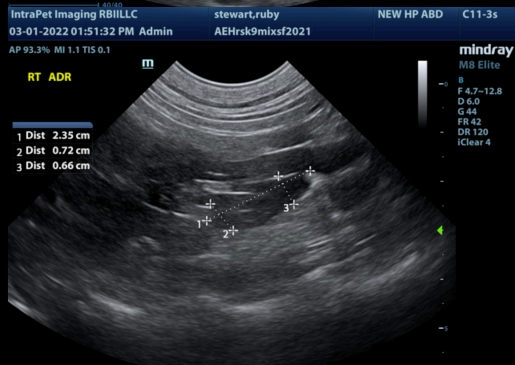
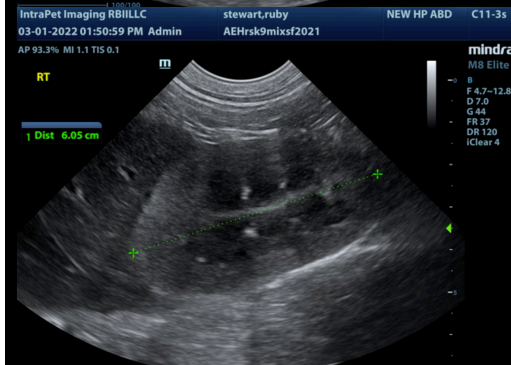
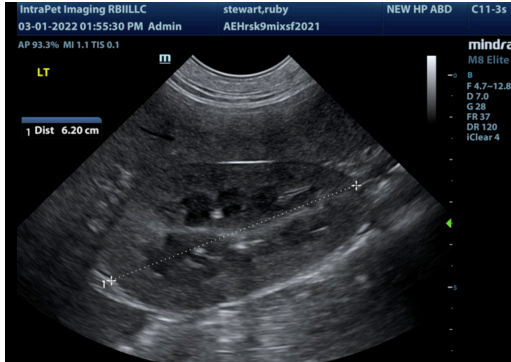
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Based on the history and information provided, this is a one year old dog with a fever, hypercalcemia, azotemia, and other non-specific findings. Ultrasound findings identified some subjective changes to the liver, spleen and kidneys, as well as enlarged mesenteric lymph nodes. Enlarged lymph nodes can be seen in young pets, but given the other issues, this cannot be discounted. Consider such differentials as tickborne disease, neoplasia, and autoimmune disease. Recommend:

- Ionized calcium, PTH/PTHrP level to further evaluate the hypercalcemia.
- ACTH stimulation test to rule in/out Addison's disease.
- Testing for Leptospirosis.
- Comprehensive infectious disease panel such as NC State's canine comprehensive panel through their vector borne disease lab.
- Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.
- Fine needle aspirate of a peripheral lymph node
- Urinalysis and culture

Depending on the clinical picture, you could consider a fine needle aspirate of the liver or spleen. The enlarged lymph nodes are adjacent to large vessels, so sampling is possible, but use extreme caution.





**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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)  
kathleen.sennello@sonopath.com