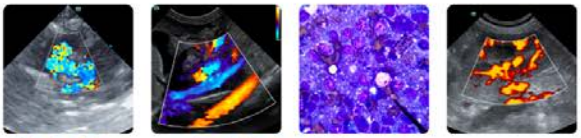


PATIENT

Zoe Gravis

SPECIES

Canine

BREED

Mixed

SEX

Spayed Female

AGE

10 Years 11 Months

WEIGHT

37.6 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Rebecca Hamilton

HOSPITAL NAME

Ringwood Animal Hospital

REFERRING VET

Dr. Endy

INVOICE

72687

DATE

12/18/25

PRESENTING CLINICAL SIGNS

Elevated Liver enzymes & chronic GI issues. Episodes of vomiting, decreased appetite. Lethargy. Meds: Cerenia, Denamarin.

Abnormal PE/Chem/CBC/UA Results: Chol 106, ALT 203

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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. In the dependent portion of the urinary bladder there is a small line of dependent mineralized/sandy debris.

The left kidney has a normal shape and size (5.23 cm) with numerous shadowing small, non-obstructive nephroliths. Overall echogenicity is slightly hyperechoic with mildly reduced 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, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.83 cm) with occasional small cortical mineralizations. Overall echogenicity is slightly hyperechoic with mildly reduced 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, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.56 cm at the cranial pole and 0.59 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.

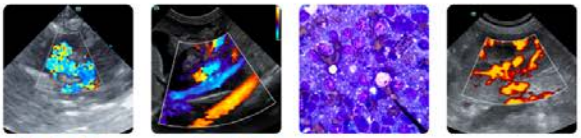
The right adrenal gland is normal in size measuring 0.70 cm at the cranial pole and 0.38 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size (1.71 cm). The spleen echotexture is mildly mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There are very subtle hypoechoic nodules visualized amongst the mottled parenchyma. Examples measure 0.68 cm and 0.51 cm.

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.



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The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and likely incidental at this time. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of 0.33 cm 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. Duodenum wall measures 0.41 cm. Jejunum wall measures 0.31 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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 visible/mildly mottled in the right limb. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Small amount of dependent mineralized debris in the urinary bladder – Recommend a urinalysis +/- culture.
- Decreased corticomedullary distinction in both kidneys with small, non-obstructive nephroliths – Findings are most consistent with age related changes and early chronic renal disease.
- Mildly mottled spleen with ill-defined hypoechoic nodules – 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.
- Pancreatic changes most consistent with chronic pancreatic remodeling +/- mild chronic pancreatitis.
- 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.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

An obvious cause for the vomiting reported is not visualized on today's exam. Unfortunately, there are many causes for vomiting that cannot be definitively diagnosed by ultrasound alone. If a primary enteropathy is suspected, consider the following:

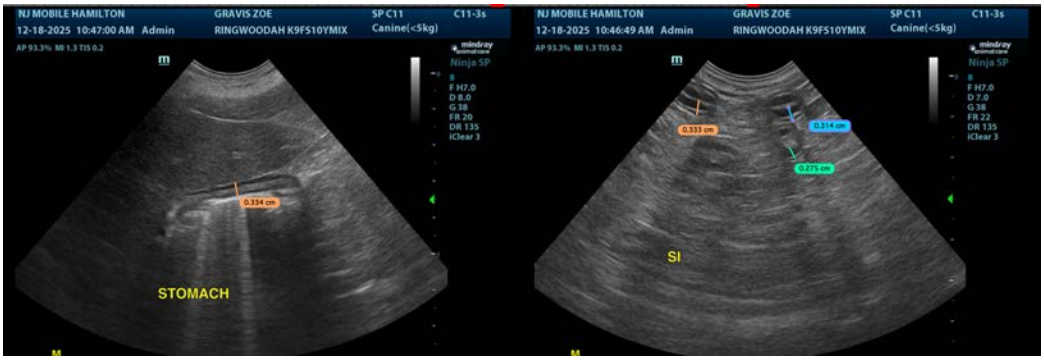
- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks)
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc.. to further evaluate for pancreatic/small intestinal disease.
- Recommend chronic probiotic therapy.

If a PLI is significantly elevated, consider treatment for chronic pancreatitis.

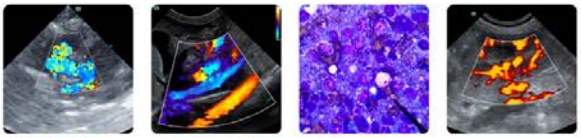
If symptoms are persistent despite making these changes, eventually biopsies of the GI tract may be warranted. Additionally consider repeat imaging in the future, looking the progression of today's lesions.

The spleen is mildly mottled with very subtle hypoechoic nodules. This could represent benign or early neoplastic change. A fine needle aspirate of the spleen could be considered. Alternately, continued monitoring with ultrasound is warranted.

The liver is mildly heterogeneous. This is a non-specific finding. The gallbladder appears relatively normal. A primary hepatopathy would be suspected as a cause for the elevation in ALT reported. For further evaluation you could consider a liver function test +/- a fine needle aspirate (provided coagulation parameters are normal), additionally screening for Leptospirosis. There is the possibility that the ALT elevation is secondary to gastrointestinal disease. If the ALT continues to rise and there is no identifiable cause despite further evaluation, a biopsy of the liver may eventually be warranted with samples for histopathology, culture and copper levels.



New Jersey Mobile
FUELED BY SONOPATH VETERINARY ULTRASOUND



Clinical Sonography & Telecytology
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SonoPath www.SonoPath.com info@sonopath.com 800.838.4268

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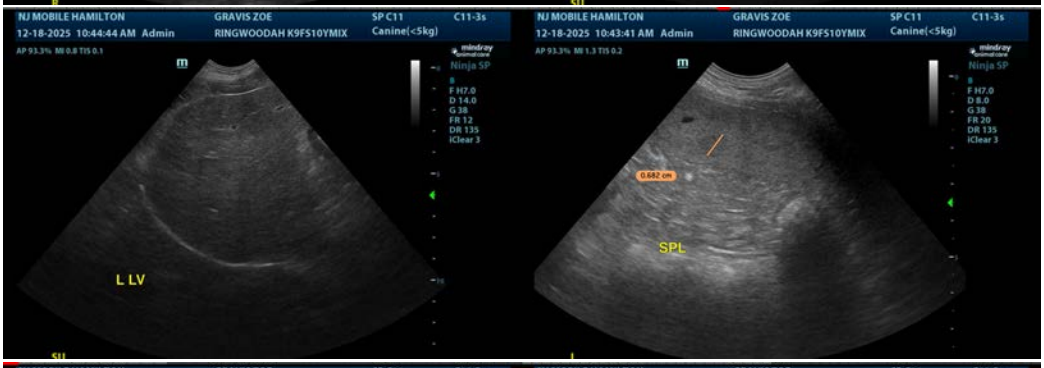

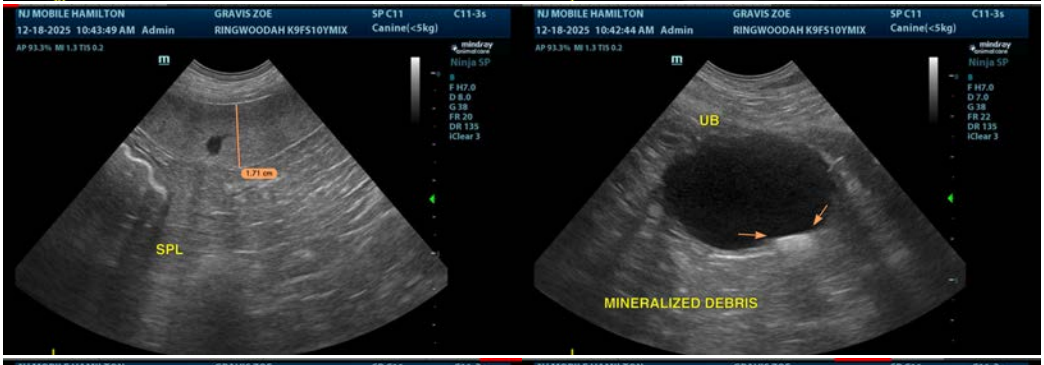

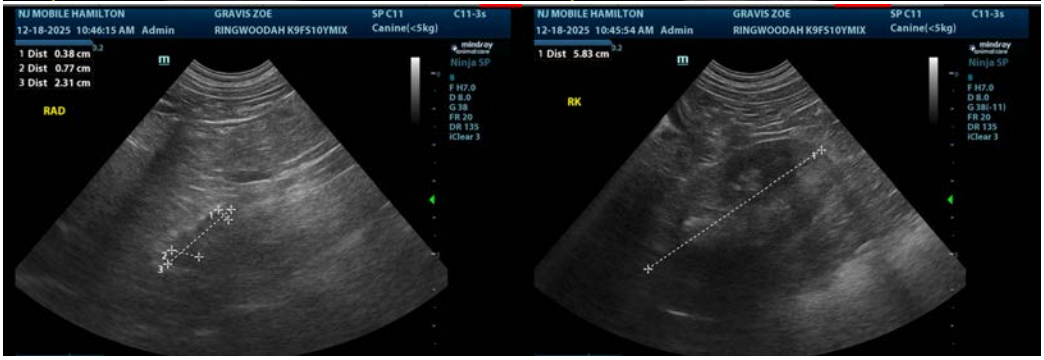

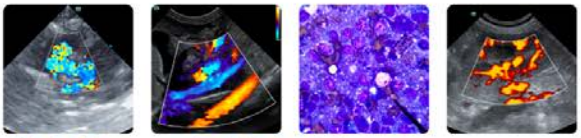

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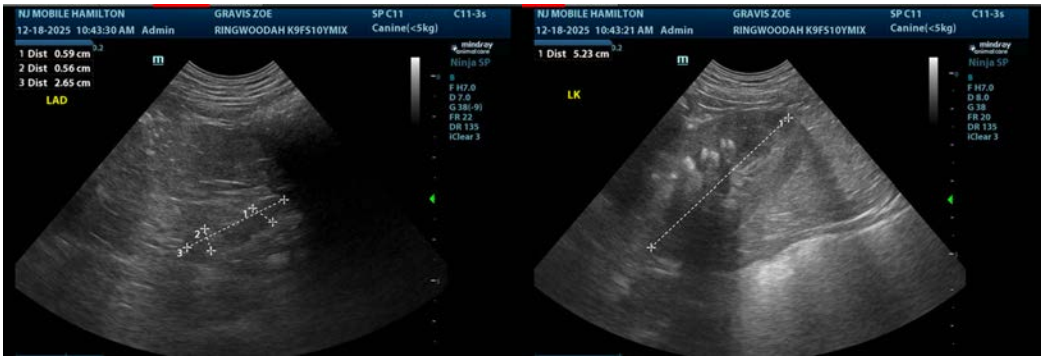

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

info@sonopath.com