

**DATE PRESENTING CLINICAL SIGNS**

6/29/23

PE: exhibiting signs of Cushings. Panting more and PU/PD. PE otherwise unremarkable. P has a history of elevated liver enzymes. P has a history of seizures.

**PATIENT**

Alice Rauer

Current Medications: Levetiracetam XR 750mg 1 BID.

Lab Results: See attached.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

**SPECIES**

Canine

**BREED**

Pit x

**SEX**

Spayed Female

**AGE**

6/24/10

**WEIGHT**

50.9 Pounds

**INTERPRETED BY**

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

**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, masses or cystic calculi.

The left kidney has a normal shape and size (6.41 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.

The right kidney has a normal shape and size (6.33 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.

**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.79 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 0.92 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.

**HOSPITAL NAME**

Northwind AH

**REFERRING VET**

Dr. Cross

**Spleen**

The spleen is subjectively normal in size and the echotexture is homogenous. The splenic capsule is smooth with no visible irregularities. Rare discrete focal hyperechoic, perivascular parenchymal abnormalities are present. The appearance of these lesions is most consistent with benign splenic myelolipomas. The blood flow through the hilus and splenic parenchyma appears normal. Additionally, there is a mixed echogenic hypoechoic nodule visualized within the parenchyma measuring 1.41 cm.

**INVOICE**

43594

**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. There is a 1.38 cm hypoechoic, ill-defined nodule visualized within the parenchyma.

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 moderate ingesta. 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. Duodenum wall measures 0.45 cm. Jejunum wall measures 0.39 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 large, mottled, and slightly hypoechoic 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.

### ***Other***

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 no evidence of pleural effusion or large mass lesions visualized.

## **ULTRASONOGRAPHIC FINDINGS**

- Hyperechoic nodules and a mixed echogenic nodule visualized within the spleen – The hyperechoic nodules have the appearance of benign myelolipomas. The mixed echogenic nodule is of uncertain etiology. This could represent a benign or neoplastic lesion.
- Large, prominent, mottled and hypoechoic right limb of the pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.
- Heterogeneous liver with ill-defined hypoechoic nodule – 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. The appearance of the subtle hypoechoic nodule trends towards a benign process. Continued monitoring is warranted.

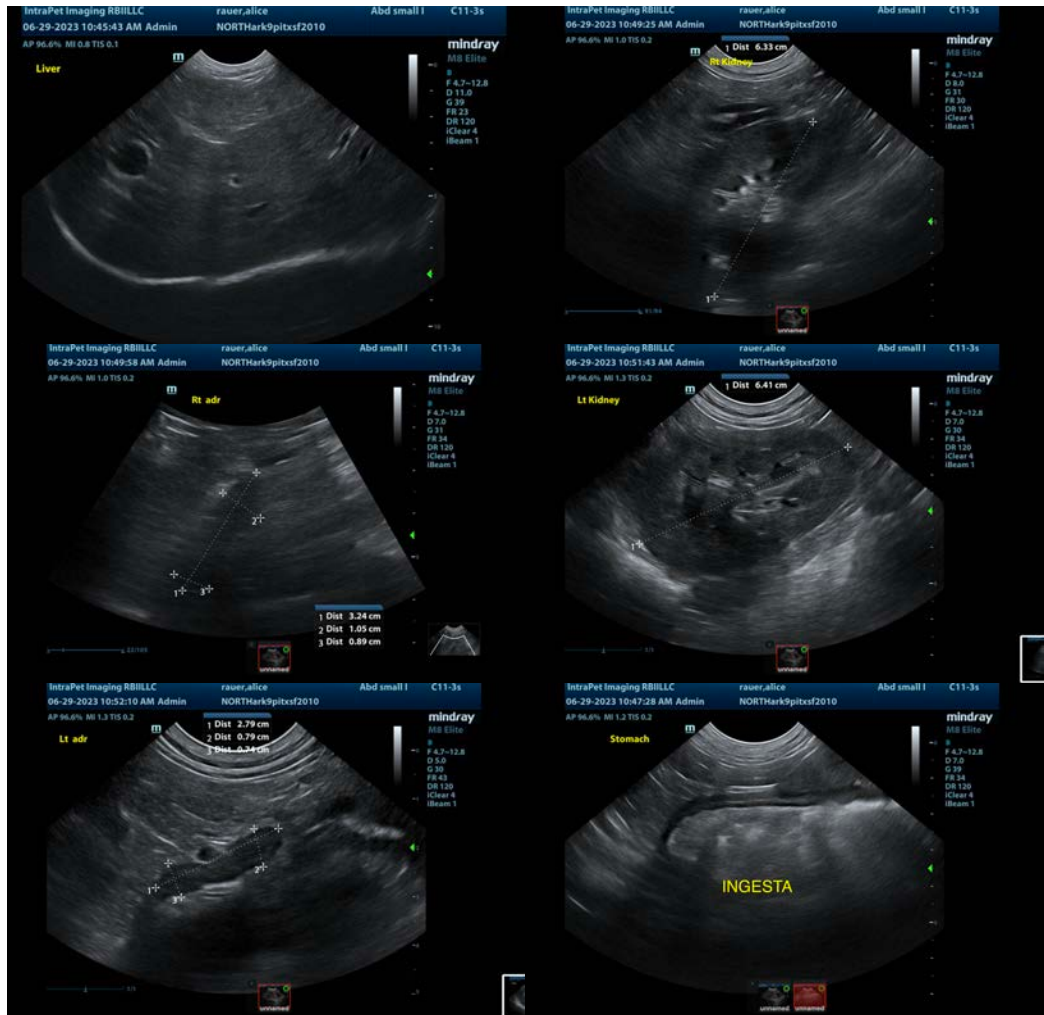
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

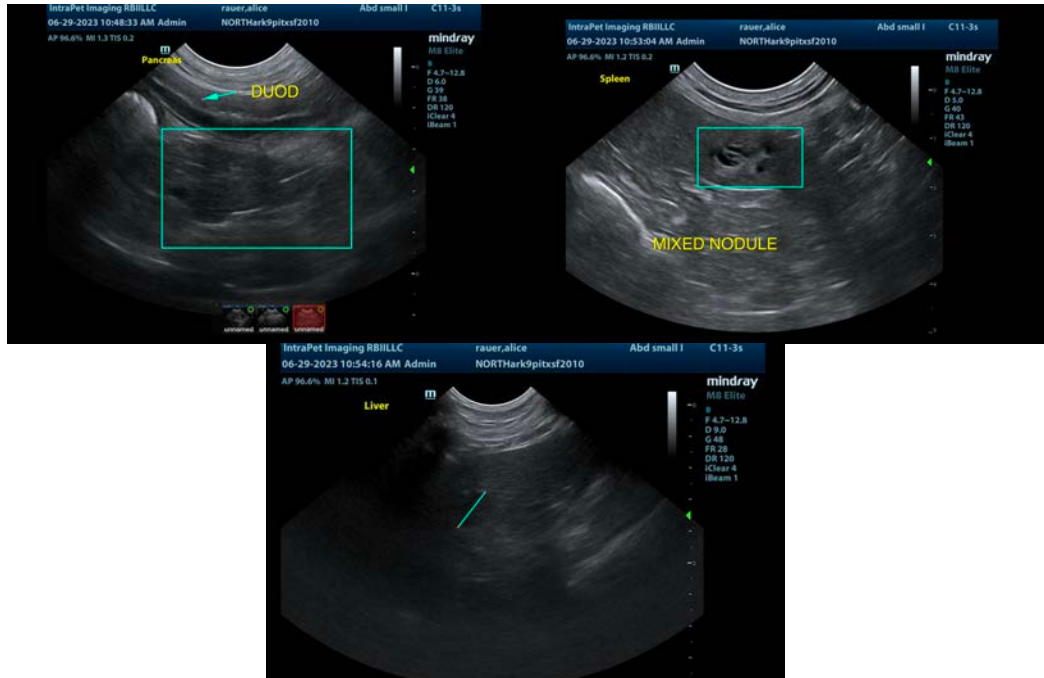
The adrenals are normal to slightly prominent. If signs of Cushing's are present and suspicions are very strong, I would consider adrenal function testing.

There is a mixed echogenic nodule visualized within the spleen. Options for further evaluation would include a fine needle aspirate or continued monitoring with ultrasound.

The pancreas is prominent and mottled in the right limb. Given the lack of current gastrointestinal signs, I suspect this is consistent with previous episodes of pancreatic inflammation and remodeling.

The liver appears heterogeneous with an ill-defined hypoechoic nodule. These changes could be consistent with a vacuolar hepatopathy. Correlate with liver enzyme elevations. If there is concern for a primary hepatopathy, consider a liver function test and a fine needle aspirate of the liver.





**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