

**DATE PRESENTING CLINICAL SIGNS**

12/9/21

History: Hx of 8lbs weight loss since September. Pickier eater over last month. Starting Friday anorexia wobbly/weak/"out of it" - could be coaxed to eat with people food. Vomiting and diarrhea through the weekend. Still only eating chicken. Hx of elevated kidney enzymes in August, improved in September, elevated again now. Now elevated ALT (~500), ALKP (~900) and slight GGT elevation. Up to date on leptovaccine.

PATIENT

Rusty Baran

SPECIES

Canine

Current Medications: Started on IV fluid therapy, Ampicillin, Ondansetron for supportive care.

Lab Results: elevated ALT (~500), ALKP (~900) and slight GGT elevation. Attached separately.

Radiographs: NSF.

Date of Previous IntraPet Ultrasound: No previous IntraPet scans.

BREED

Mixed

Sedation: Not required for a full diagnostic ultrasound.

Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**SEX**

Neutered Male

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.

AGE

11/1/09

The prostate is normal in size (1.61 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

WEIGHT

72.1 Pounds

The left kidney has a normal shape and size (6.44 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 hydronephrosis. 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 (5.83 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 hydronephrosis. Renal vasculature is normal.

IMAGING PERFORMED BY

Stephanie Pearce
RDCS, RVT

Adrenal Glands

The left adrenal gland is normal in size measuring 0.98 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

Bayside AMC

The right adrenal gland is normal in size measuring 0.81 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. Buchanan

Spleen

The spleen is subjectively normal 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. There is an ill-defined, irregular, hypoechoic nodule visualized within the parenchyma of the spleen, measuring 0.47 cm x 1.07 cm.

INVOICE

33377

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 gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic, but there is a dependent portion of hyperechoic shadowing material with suspected small stones. The proximal bile duct appears mildly dilated and surrounded by hyperechoic mesentery, but cannot be followed caudally, so is likely not significantly dilated.

Gastrointestinal

The stomach contains minimal/moderate luminal contents. It measures at the high end of normal for thickness at 0.65 cm (normal is <0.7 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 measured 0.46 cm. Jejunum wall measured 0.32 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 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

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

A brief view of the heart was submitted. No significant pericardial effusion was seen.

ULTRASONOGRAPHIC FINDINGS

- 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.
- Small amount of dependent shadowing mineralizations (small stones) within the gallbladder and proximal bile duct dilation – The significant of this is unclear. I suspect it is not a major factor, but mild cholecystitis cannot be ruled out.
- Mottled spleen with small, hypoechoic, ill-defined nodule – 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.

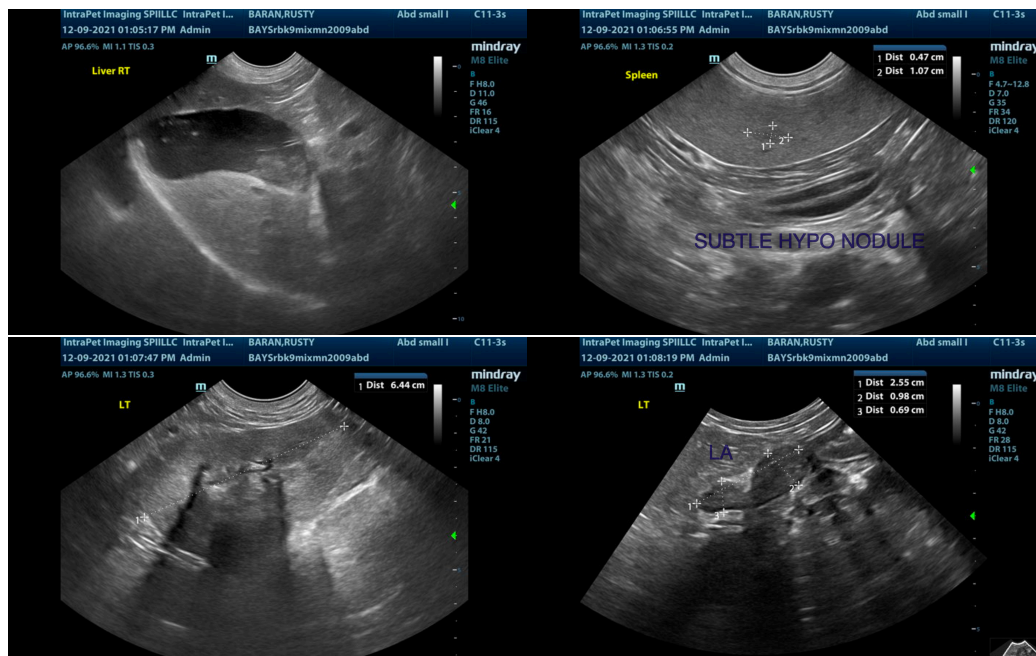
- Prominent stomach wall with mild intraluminal fluid accumulation – The stomach wall thickening could be consistent with inflammation, edema, infiltrative neoplasia, imaging artifact due to rugal folds, other.
- Decreased corticomedullary distinction in both kidneys – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.

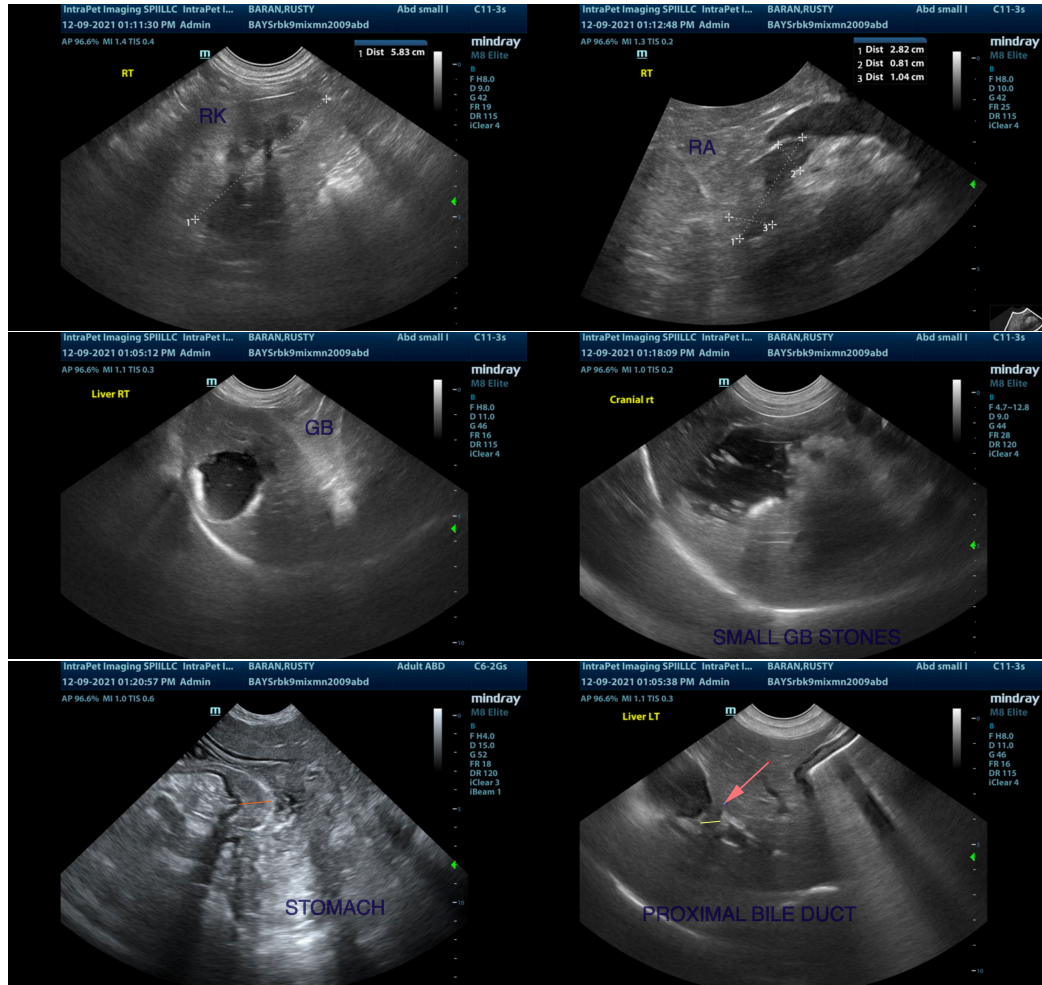
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The changes observed in the kidneys are somewhat expected based on the history of elevations in renal values. It is unclear why they are normalizing then getting worse. Recommend urinalysis, culture, blood pressure evaluation, and Leptospirosis testing (vaccinated breakthrough is possible along with infection with alternate serovars).

The changes observed in the liver are relatively non-specific. No focal hepatic parenchymal lesions are observed. The gallbladder does have some dependent material and small stones within it, and possibly some subtle inflammation around the proximal bile duct, but this appears very questionable.

- Recommend a liver function test (pre- and post-prandial bile acids).
- Recommend a fine needle aspirate of the liver and spleen as long as coagulation parameters are normal.
- Consider Leptospirosis testing as described above.
- Consider empirical treatment for cholangiohepatitis with Ursodiol, antibiotics, Denamarin, in addition to medications for vomiting and diarrhea including antiemetics, probiotics, etc.
- If liver enzymes continue to worsen, consider reevaluation of the gallbladder with ultrasound and possible referral to a veterinary surgeon for a liver biopsy and evaluation of the gallbladder and bile duct.





The information and recommendations provided are based on the images presented by the referring veterinarian. 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