

**DATE PRESENTING CLINICAL SIGNS**

8/10/21

History: Rechecking echocardiogram from Feb. Pet's heart murmur is stable at a 4/6 systolic. Pet is asymptomatic at home. Pet recently presented for a dental but pre op bloodwork showed an elevated ALT of 350. Lab work was normal in Feb. Pet has also dropped about a pound since Feb and over the last 1-2 months has had an intermittent decrease in appetite. The dental was postponed.

PATIENT

Lulu Stubblefield

Current Medications: Nothing prescribed. Owner giving OTC herbal supplement and oral colloidal silver.

Lab Results: 7/23/21- ALT 350, BUN 29. Feb 2021- CBC/Chem were all wnl.

Date of Previous IntraPet Ultrasound: 7/17/21 Intrapet.

Sedation: Not needed.

SPECIES

Stat Report: Not requested.

Canine

BREED

Chihuahua

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended. A scant amount of suspended echogenic debris is observed within the lumen. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

SEX

Female, spayed

The left kidney is normal size (3.34 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

AGE

2010

The right kidney is normal size (3.53 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

WEIGHT

6.4 lbs.

Adrenal Glands

The left adrenal gland is normal size (0.44 cm at cranial pole) (0.38 cm at caudal pole) (1.34 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

INTERPRETED BY

Andrea Nicastro, DVM,
Diplomate ACVIM
(Small Animal Internal
Medicine)

The right adrenal gland is normal size (0.56 cm at cranial pole) (0.37 cm at caudal pole) (1.12 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

HOSPITAL NAME

Greenbrier Veterinary
Clinic

Spleen

The spleen is normal in size (0.95 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

REFERRING VET

Dr. Boccanfuso

Liver

The liver is subjectively normal in size with normal contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed. The gall bladder lumen is moderately distended. The wall is thin and smooth. A moderate amount of echogenic to slightly mineralized debris is observed within the lumen, some of which is adhered to the all and some of which is suspended. The cystic and common bile ducts are normal/not seen.

INVOICE

11861

Gastrointestinal

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

Pancreas

The region of the pancreas is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.\

Free Abdomen

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

Other

Uterine stump is visible (0.29 cm in width).

ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- The gallbladder changes could be secondary to cholestasis, early mucocele formation or secondary to fasting.

Secondary Findings:

- Uterine stump- incidental.
- Minor age-related renal pathology.

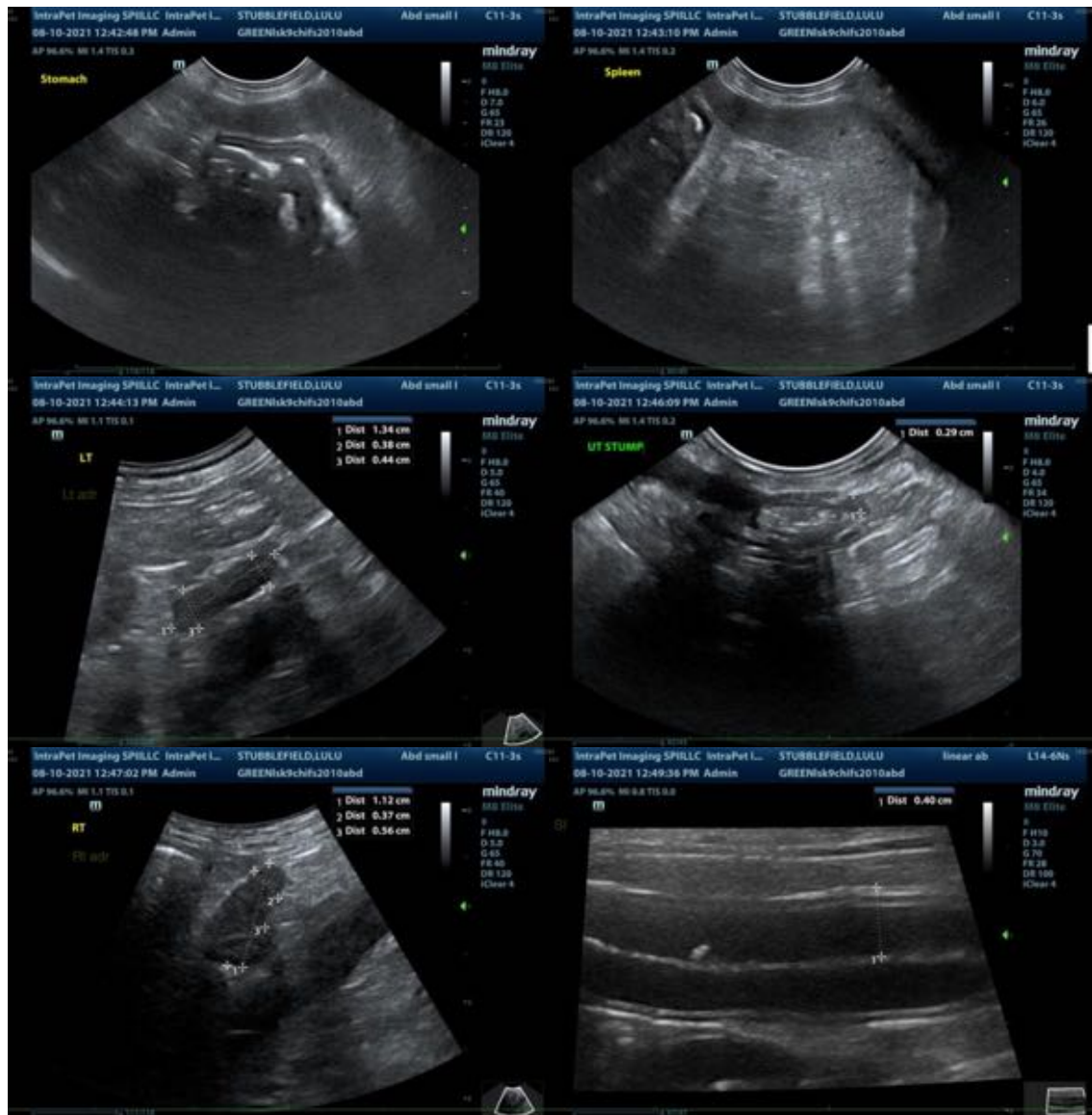
*An obvious cause for the elevated liver enzymes is not identified in the study. However, a microscopic hepatopathy (i.e., bacterial cholangiohepatitis, Leptospirosis, chronic active hepatitis, copper-associated hepatotoxicity, infiltrative neoplasia (less likely)) cannot be excluded.

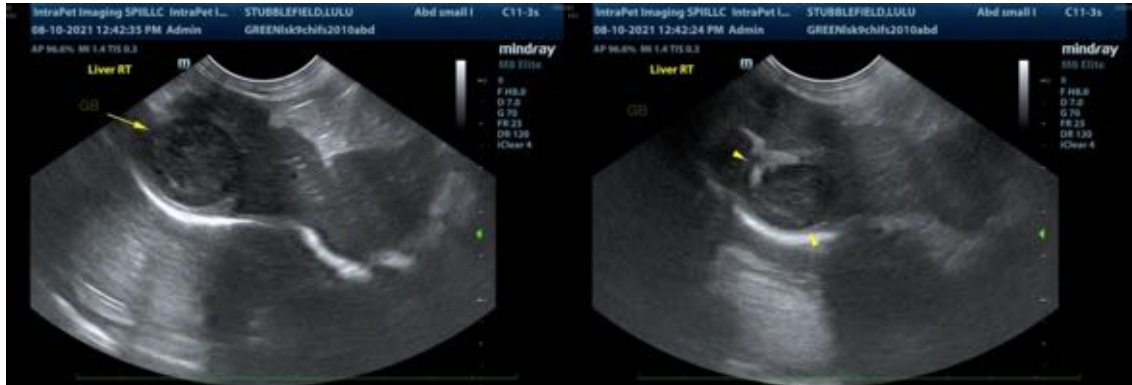
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Cytologic evaluation of the liver should be considered in this patient if clotting status is appropriate. A fine needle aspirate using a 25-gauge needle is recommended. If cytologic evaluation is inconclusive, consider a surgical liver biopsy with aerobic and anaerobic bile cultures and acquisition of additional hepatic tissue samples for copper quantitation.
- If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis/cholecystitis (amoxicillin-clavulanic acid, Denamarin Advanced). If no improvement in the liver values is seen within 7-10 days of initiating therapy, antibiotics should be discontinued and hepatic tissue sampling reconsidered. If liver values improve, continue therapy for at least 4-6 weeks and 1 week beyond normalization of the liver values.
- Consider Leptospirosis testing (i.e., blood and urine PCR, serology), particularly if the disease is endemic in the patient's geographic region.
- Given the gallbladder changes, Ursodiol therapy can be initiated at this time. Alternatively, a repeat ultrasound can be performed in 2-3 weeks, preferably 2 hours following a small meal. If the

gallbladder changes are similar to the current scan, Ursodiol therapy can be reconsidered.

- Three-view thoracic radiographs are recommended prior to any anesthetic event.





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.

Andrea Nicastro, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)
Andrea.nicastro@sonopath.com