

**DATE PRESENTING CLINICAL SIGNS**

5/10/22

Enlarged liver, increase in liver values, continued weight loss.

**PATIENT**

Current Medications: Doxycycline 100mg 2 BID for 7 days started 5/3/22.

Lab Results: Mild non-regenerative anemia, ALT increased from 380 to 562, ALP increased from 520 to 1917, GGT 35 increased to 134.

Date of Previous IntraPet Ultrasound: 2/15/22.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Stephanie Pearce RDCS, RVT.

Captain Charlye Tang

**SPECIES**

Canine

**BREED**

Standard Poodle

**SEX**

Male, neutered

**AGE**

4/5/2014

**WEIGHT**

67.4 lbs.

**INTERPRETED BY**

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

**HOSPITAL NAME**

Bel Air VH

**REFERRING VET**

Dr. Schmidt

**INVOICE**

13351

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****Urinary System**

The urinary bladder is mildly distended. The wall is normal in thickness with a smooth mucosal surface. A moderate amount of suspended echogenic to mineralized debris is observed within the lumen. No distinct calculi are observed. The region of the trigone and the visible portion of the proximal urethra are normal.

The prostate is not definitively visualized due to its pelvic location.

The left kidney is normal size (7.56 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal to mild loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal size (8.01 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal to mild loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is mildly enlarged (0.95 cm at cranial pole) (1.09 cm at caudal pole) (3.25 cm in length) with a normal shape. The parenchyma is subtly heterogeneous with some loss of glandular detail. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is enlarged (1.93 cm at cranial pole) (0.97 cm at caudal pole) (2.63 cm in length) with a slightly irregular shape. The parenchyma is slightly heterogeneous with some loss of glandular detail. The phrenicoabdominal vein and surrounding vasculature are normal.

**Spleen**

The spleen is normal in size (1.61 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.

**Liver**

The liver is enlarged with swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and subtly heterogeneous in appearance. A 1.89 x 1.60 cm hyperechoic to slightly heterogeneous nodule is observed on the left side. In addition, a 1.00 x 0.98 cm hyperechoic to slightly heterogeneous nodule is observed on the right. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is thin and smooth. A small amount of gravity-dependent echogenic to mineralized debris is observed within the lumen. A few tiny choleliths are also suspected. The cystic and common bile ducts are normal/not seen.

### ***Gastrointestinal***

The gastric lumen is moderately distended with ingesta. The gastric wall is normal in thickness with a normal layering pattern. The small intestinal lumen is segmentally dilated with gas and chyme. 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***

A portion of the pancreas is obscured by the gastric distention. In the visualized portion of the base and right limb, the pancreas is prominent in size with slightly irregular peripheral contours. The parenchyma is hyperechoic relative to surrounding omental fat and mottled in appearance. No distinct focal lesions are observed. The pancreatic duct is not overtly dilated.

### ***Free Abdomen***

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

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings:**

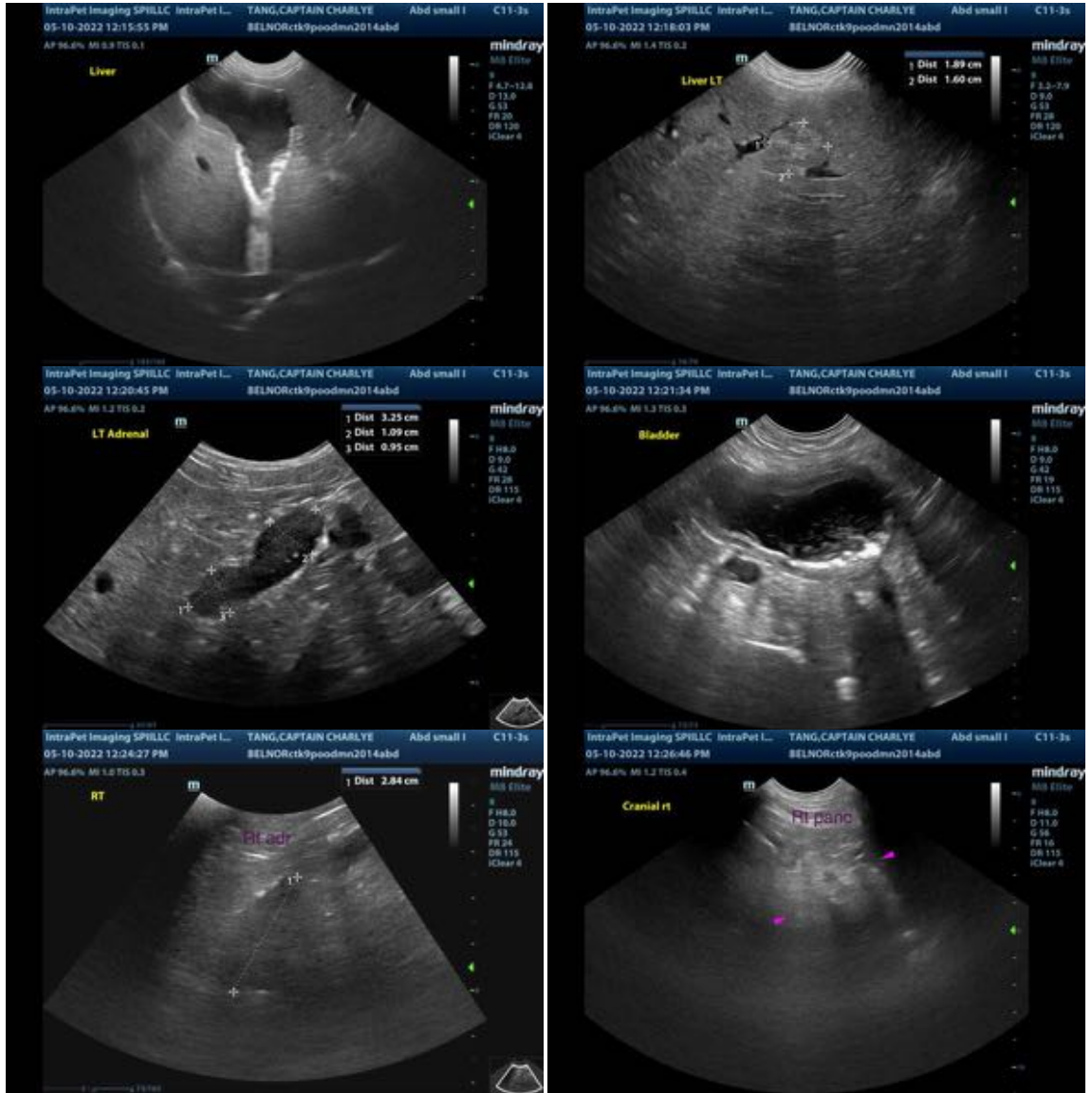
- Progressive, diffuse hepatopathy. Differentials include inflammatory hepatopathy (i.e., chronic active hepatitis, bacterial cholangiohepatitis), hepatotoxicosis (i.e., copper), Leptospirosis (less likely given the chronicity of the liver enzyme elevations), other hepatopathy +/- concurrent age-related change (i.e., vacuolar hepatopathy, regenerative nodular hyperplasia).
- Mineralized gallbladder debris +/- tiny non-obstructive choleliths.

### **Secondary Findings:**

- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- Mild bilateral adrenomegaly.
- Bilateral, age-related renal changes.
- Urinary bladder debris could be consistent with cells, crystals and/or exfoliated material.

## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Pre- and post-prandial serum bile acids. Leptospirosis testing can also be considered although this differential is considered less likely given the chronicity of liver enzyme elevations. Ultimately, hepatic tissue sampling (i.e., fine needle aspirate or surgical biopsy) would be necessary to get a definitive diagnosis. Surgical biopsies are preferred in that they are more likely to represent global organ pathology. If pursued, aerobic and anaerobic bile cultures and additional samples for hepatic copper quantitation should be obtained. Clotting status should be evaluated prior to any tissue sampling and thoracic radiographs are recommended prior to anesthesia.



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.

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