

**DATE PRESENTING CLINICAL SIGNS**

1/24/2022

History: Chronic liver value elevations, recent ALT worsening. Recent onset of PU/PD with weight loss.

PATIENT

Bella Russell

Current Medications: Enalapril 2.5 mg BID started December for hypertension.

Lab Results: ALT 307, ALKP 814, trig 1005, USG 1.020 1+ protein. ALT 196, ALKP 787, trig 2767, USG 1.044, 2+ protein. ALT 193, ALKP 775, trig 1015, USG 1.049, 3+ protein. (Dates not specified on request).

Date of Previous IntraPet Ultrasound: 4-12-2021.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Stephanie Pearce RDCS, RVT.

SPECIES

Canine

BREED

Chihuahua

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

The urinary bladder is minimally distended with mostly anechoic urine. The wall is diffusely thickened (up to 0.60 cm) and irregular. No cystic calculi are observed. The region of the trigone is normal.

SEX

Female, spayed

The left kidney is normal size (4.18 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is hyperechoic and there is mild to moderate loss of corticomedullary distinction. A few non-obstructive nephroliths are visualized. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

AGE

4/13/2007

The right kidney is normal size (4.54 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is hyperechoic and there is mild to moderate loss of corticomedullary distinction. A few non-obstructive nephroliths are visualized. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

WEIGHT

13.81 lbs.

INTERPRETED BYAndrea Nicastrò, DVM,
Diplomate ACVIM
(Small Animal Internal
Medicine)**Adrenal Glands**

The left adrenal gland is normal size (0.33 cm at cranial pole) (0.38 cm at caudal pole) (1.18 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

Everhart VC

The right adrenal gland is normal size (0.47 cm at cranial pole) (0.44 cm at caudal pole) (1.39 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.

REFERRING VET

Dr. Notarangelo

Spleen

The spleen is normal in size (xxx cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. A few ill-defined myelolipomas are observed in the region of the hilus. Splenic vasculature is normal.

INVOICE

12899

Liver

The liver is subjectively prominent to enlarged with rounded peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely heterogeneous in appearance with numerous ill-defined hypo and hyperechoic nodules throughout the organ. The largest hyperechoic nodule measures 1.15 x 0.77 cm. 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. Luminal contents are mostly anechoic. The cystic and common bile ducts are normal/not seen.

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

A brief echocardiogram reveals no evidence of pericardial effusion.

ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- Non-specific diffuse hepatopathy. Differentials include inflammatory disease (i.e., chronic active hepatitis, bacterial cholangiohepatitis), hepatotoxicosis (i.e., copper), infiltrative neoplasia (i.e., lymphoma), other hepatopathy and/or benign age-related change (i.e., regenerative nodular hyperplasia and/or vacuolar hepatopathy).

Secondary Findings:

- Moderate degenerative renal changes with bilateral non-obstructive nephrolithiasis.
- The urinary bladder wall changes may be artifactual due to lack of luminal distention. Alternatively, cystitis may be present. Correlation with clinical findings is recommended.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Consider pre- and post-prandial serum bile acids to assess hepatic function.
- A fine needle aspirate of the liver is recommended (if clotting status is appropriate). If cytology results are inconclusive, consider a surgical liver biopsy with aerobic and anaerobic bile cultures and acquisition of additional hepatic tissue samples for potential copper quantitation.
- Three-view thoracic radiographs should be performed prior to anesthesia.

- Leptospirosis testing can be considered. However, given the chronicity of the liver enzyme elevations this differential is considered less likely.





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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