

**DATE**

3/30/22

PRESENTING CLINICAL SIGNS

History: No murmur. Did routine bloodwork for potential dental and found liver issue.

Additional History: The ALT is 208

PATIENT

Ruby Dobrzykowski

Lab Results: CBC NSF. Chem: mild incr ALT, 4dx and fecal negative.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Stephanie Pearce RDCS, RVT.

SPECIES

Canine

BREED

Toy Poodle

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 mildly 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

Spayed Female

AGE

8/7/09

The left kidney presented normal size (3.56 cm in length); with a normal shape, smooth peripheral margins and normal internal architecture. There is mild loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. A few small nonobstructive nephroliths are visualized. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

WEIGHT

10 Pounds

The right kidney presented normal size (3.99 cm in length); with a normal shape, smooth peripheral margins and normal internal architecture. There is mild loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

INTERPRETED BY

Andrea Nicastro, DMV,
Diplomate DACVIM
(Small Animal
Internal Medicine)

Adrenal Glands

The left adrenal gland is mildly enlarged (0.79 cm at cranial pole) (0.61 cm at caudal pole) (1.77 cm in length); with a slightly irregular shape. The parenchyma is heterogeneous in appearance. No distinct focal lesions are observed. The phrenicoabdominal vein and surrounding vasculature are normal.

HOSPITAL NAME

Eldersburg VH

The right adrenal gland is normal in size (0.67 cm at cranial pole) (0.44 cm at caudal pole) (2.13 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. Easter

Spleen

The spleen is normal in size (1.58 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.

INVOICE

14479

Liver

The liver is normal to slightly prominent in size with normal curvilinear peripheral contours. The parenchyma is hypoechoic relative to the spleen and diffusely homogeneous in appearance. No distinct

focal lesions are observed. There is a subtle increase in portal markings. Hepatic vasculature is of normal volume with no evidence of congestion.

The gall bladder lumen is moderately distended. The wall is thin and smooth. A moderate amount of aggregated, echogenic to mineralized, mostly gravity dependent debris is observed within the lumen. The cystic and common bile ducts are normal.

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 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 or overt infiltrative 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.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- 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, reactive hepatopathy, other) should be considered. Infiltrative neoplasia is considered less likely.
- Gallbladder debris, non-mucocele

Secondary Findings

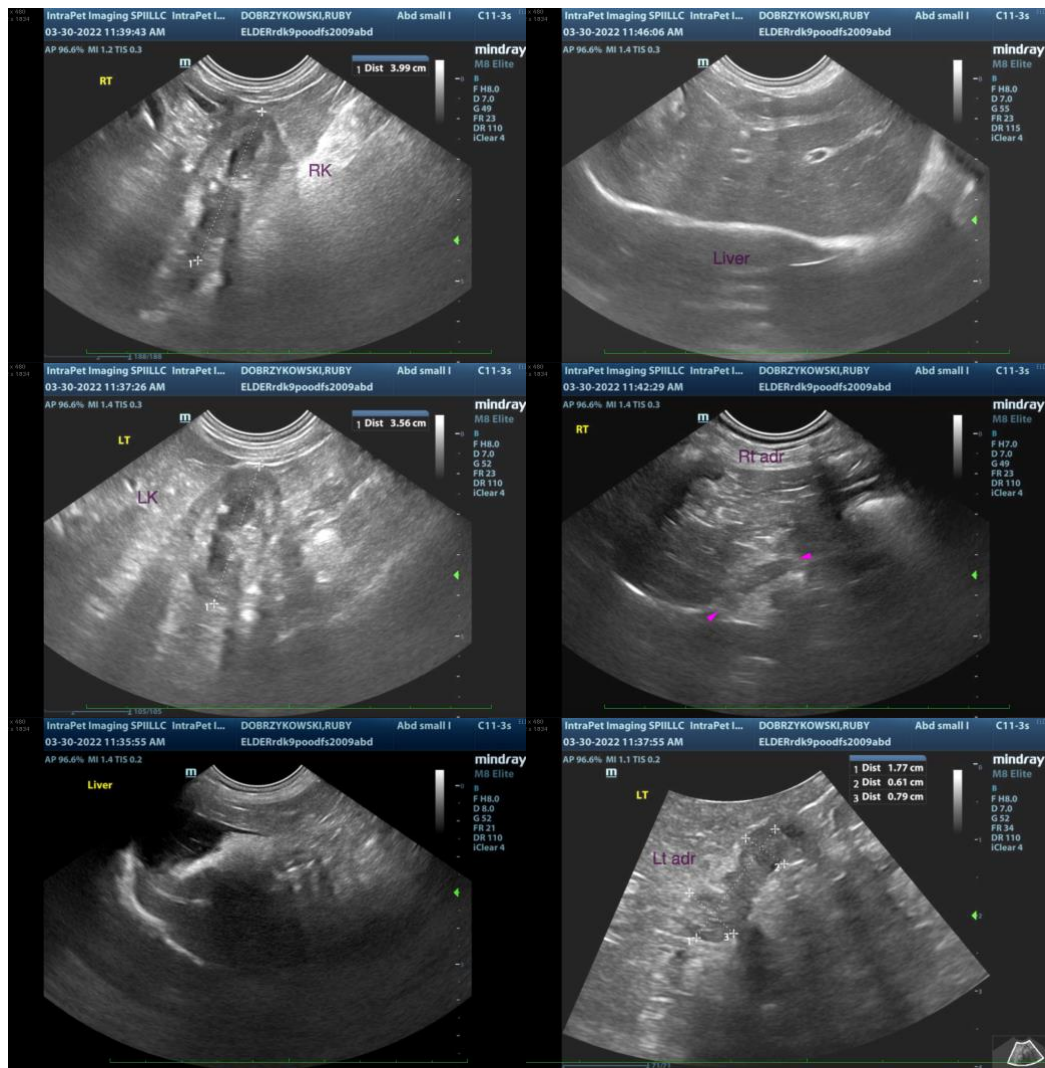
- Minor age-related renal changes with nonobstructive nephrocalcinosis
- The left adrenal changes are most consistent with hyperplastic change with a lower possibility of emerging neoplasia

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Pre- and postprandial serum bile acids are recommended to assess hepatic function.
- Consider Leptospirosis testing (i.e., blood and urine PCR, serology), particularly if the index of suspicion for the disease is high.
- Ultimately, hepatic tissue sampling (i.e., fine needle aspirate or surgical biopsy) would be necessary to get a definitive diagnosis. Surgical biopsies would be ideal, in that they are more likely to

represent a global organ pathology. If surgery is performed, aerobic and anaerobic bile cultures and acquisition of additional hepatic tissue samples for copper quantitation are recommended. Given the patients age, chest x-rays (three-view) are recommended prior to anesthesia.

- In the meantime, consider empirical treatment for bacterial cholangiohepatitis with amoxicillin clavulanic acid +/- metronidazole, Denamarin +/- Ursodiol. If no improvement in the ALT is seen within 5-7 days of initiating therapy, antibiotics should be discontinued, and hepatic tissue sampling revisited.



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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