

**DATE PRESENTING CLINICAL SIGNS**

1/3/2022

History: History of liver value elevations. New kidney changes with urinary tract infection. New heart murmur ausculted on exam. Advise bicavitary for geriatric screen and to assess medication needs.

PATIENT

Vivian Waryasz

Current Medications: Cefpodoxime started 12/30/21.

Lab Results: 12/28/21: ALKP 279, ALT 346, crea 1.8, SG 1.012, 1+ protein, rods. 6/2020: ALKP 164, ALT 357, crea 0.9, SG 1.040, trace protein.

Date of Previous IntraPet Ultrasound: No previous IntraPet scans.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Andi Parkinson, RDMS.

SPECIES

Canine

BREED

Border Collie mix

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

Female, spayed

The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with anechoic urine. 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.

AGE

9/22/2006

The left kidney is normal in size (5.59 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. Pinpoint hyperechoic foci are observed within the cortex. There is no evidence of pyelectasia, infarcts or hydronephrosis.

WEIGHT

46 lbs.

The right kidney is normal size (5.48 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. Pinpoint hyperechoic foci are observed within the cortex. There is no evidence of pyelectasia, infarcts or hydronephrosis.

INTERPRETED BY

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

Adrenal Glands

The left adrenal gland is normal size (0.62 cm at cranial pole) (0.70 cm at caudal pole) (2.58 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 (0.59 cm at cranial pole) (0.52 cm at caudal pole) (1.51 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

INVOICE

12767

Spleen

The spleen is normal in size (1.46 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 subjectively prominent in size with slightly swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and exhibits a finely heterogeneous appearance. A 4.11 cm ill-defined hyperechoic to slightly heterogeneous nodule/mass is observed deep on the right side, adjacent to the gallbladder and diaphragm. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is distended. The wall is normal in thickness. A moderate to large amount of aggregated echogenic sludge, some of which is partially dependent and some of which is suspended is observed within the lumen. 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.

ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- The hepatic nodule/mass could be consistent with benign pathology (i.e., regenerative nodule). Alternatively, emerging neoplasia is possible. The diffuse hepatic parenchymal changes are non-specific and could be secondary to inflammatory/immune mediated disease, hepatotoxicosis, infiltrative neoplasia (less likely) +/- concurrent age-related pathology.
- Gallbladder sludge, non-mucocele.

Secondary Findings:

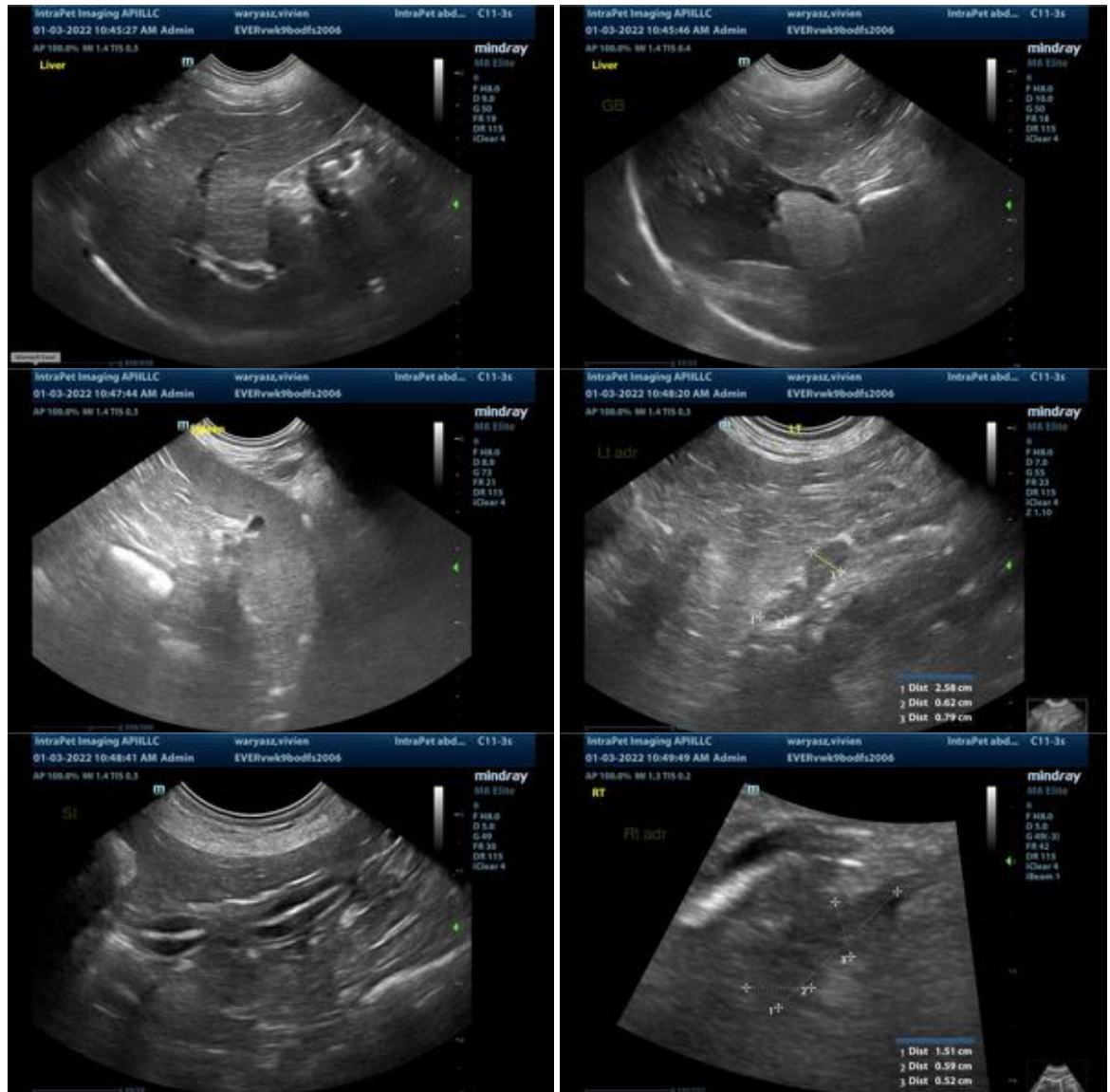
- Minor, non-specific age-related renal changes with dystrophic mineralization.

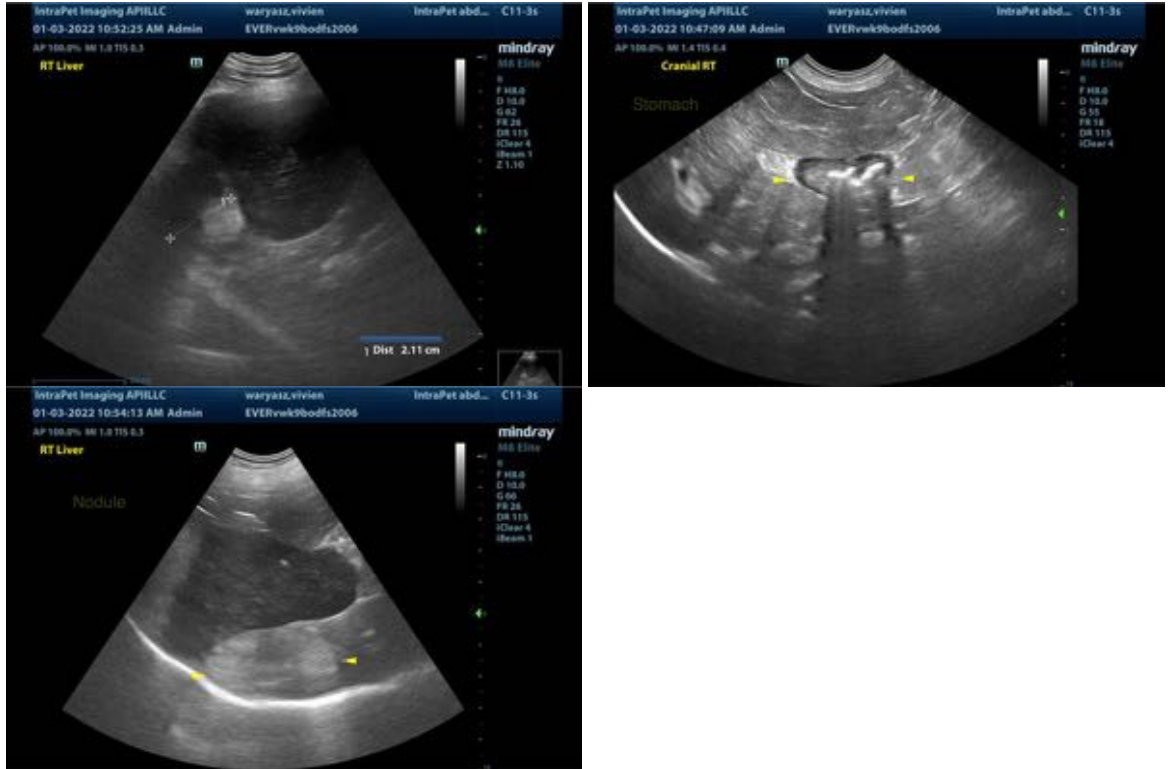
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Given the recent increase in renal values, a urine culture and sensitivity, UPC and baseline blood pressure measurement are recommended along with Leptospirosis testing (i.e., blood and urine PCR, serology).
- Regarding the liver enzyme elevations, a surgical liver biopsy with aerobic and anaerobic bile cultures and acquisition of additional hepatic tissue samples for potential copper quantitation would be ideal. The liver nodule/mass should also be biopsied. If a more conservative approach is desired, a fine needle aspirate of the liver should be considered (if clotting status is appropriate). Alternatively, the liver values can be rechecked after the antibiotic course. If values have improved, continuation of

the antibiotics for at least 4-6 weeks and 1 week beyond normalization of the values, particularly the ALT is recommended. Also consider supplementation with a hepatic antioxidant (i.e., Denamarin).

- Given the patient's age, three-view thoracic radiographs should be performed to assess cardiopulmonary status.





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