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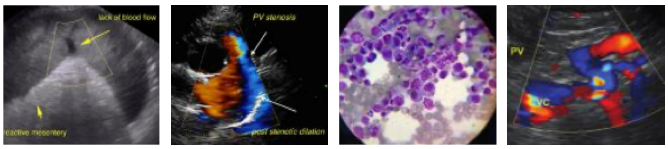
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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PATIENT

Caleb Rivera

SPECIES

Canine

BREED

Retriever Mix

SEX

Neutered Male

AGE

15 years

WEIGHT

54 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

AH of Sussex

REFERRING VET

Dr Ackernect

INVOICE

11294

DATE

8.1.22

PRESENTING CLINICAL SIGNS

History: Elevated ALT, AST and Tbili. Current meds: Dasuquin, Galliprant

Abnormal PE/Chem/CBC/UA Results: ALT 317, AST 66, T Bili 0.3, Alb 2.6

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** wall is normal in thickness and the mucosal surface is smooth. The bladder lumen is mildly 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.

The **prostate** is mildly enlarged (1.74 cm in width) with a normal shape and smooth peripheral contours. The parenchyma is homogenous. No focal lesions are observed. The prostatic urethra is not overtly dilated.

The **left kidney** is normal size (6.69 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. A thin, hyperechoic medullary band is observed at the corticomedullary junction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The **right kidney** is normal size (5.85 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. A thin, hyperechoic medullary band is observed at the corticomedullary junction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The **left adrenal gland** is normal size (0.46 cm at cranial pole) (0.47 cm at caudal pole) (2.33 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.

The **right adrenal gland** is normal size (0.77 cm at cranial pole) (0.51 cm at caudal pole) (1.76 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.

Spleen

The **spleen** is normal in size (2.25 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 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. Luminal contents are mostly anechoic. The cystic and common bile ducts are normal/not seen.

Gastrointestinal

The **gastric lumen** is mildly distended with ingesta and soft shadowing material. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The small intestinal lumen is segmentally dilated with 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. There is no evidence of an obstructive pattern.

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 mesentery in the mid to caudal abdomen is hyperechoic. Trace free fluid is observed. 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, infiltrative neoplasia (less likely)) cannot be excluded.

Secondary Findings

- Minor, bilateral, age-related renal changes
- The mild prostatomegaly could be consistent with a late-in-life neutering (if applicable). Alternatively, it may be a normal variant for this patient or may represent emerging neoplasia (i.e., adenocarcinoma, transitional cell carcinoma).
- The mild mid to caudal peritonitis, the cause of which is unclear, may be secondary to mild underlying bowel or pancreatic pathology, mild panniculitis, other.
- The soft shadowing gastric luminal contents may represent normal ingesta and/or foreign material (i.e., grass).

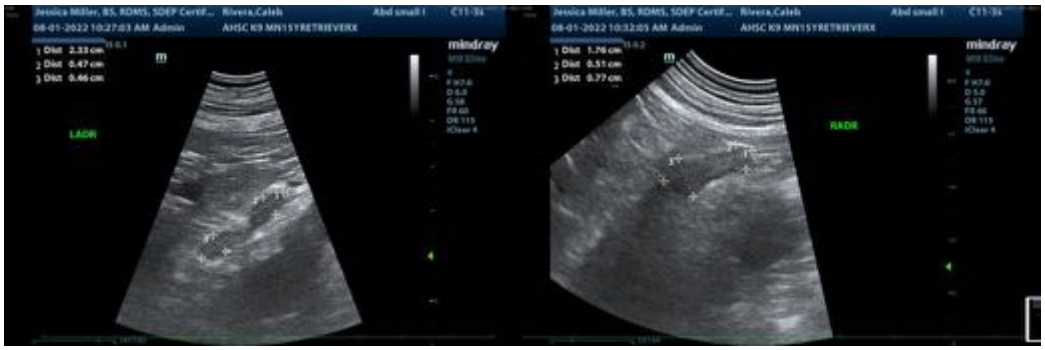
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

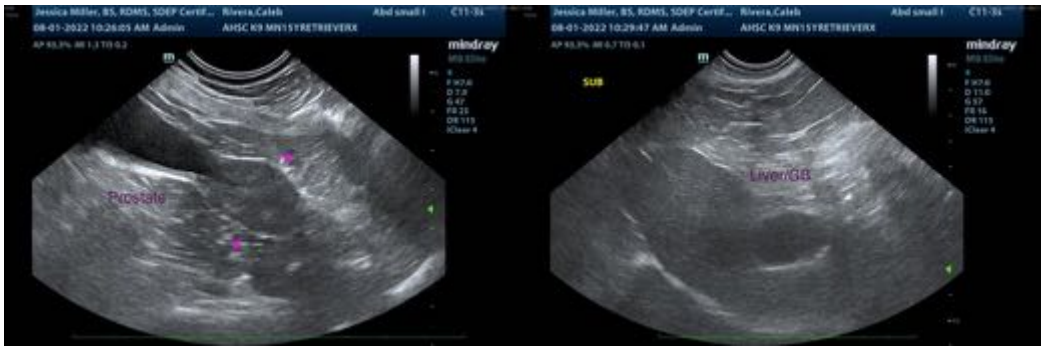
Regarding the elevated liver enzymes, consider pre-and postprandial serum bile acids and hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy). Surgical biopsies are more likely to yield a definitive diagnosis. If pursued, aerobic and anaerobic bile cultures and acquisition of additional hepatic tissue samples for potential copper quantitation are recommended. Thoracic radiographs should be performed prior to anesthesia to assess cardiopulmonary status.

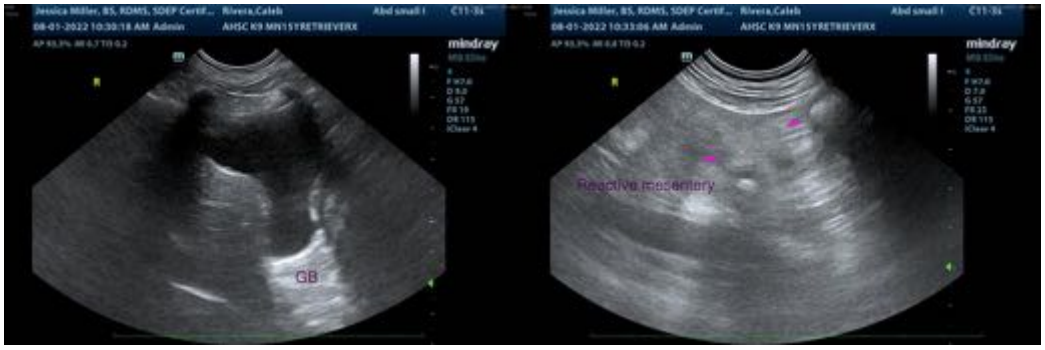
If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis (amoxicillin-clavulanic acid, +/-metronidazole, Denamarin). If no improvement in the liver values is seen within 7-10 days of initiating therapy, antibiotics should be discontinued, and hepatic tissue sampling reconsidered. If liver values improve, continue therapy for at least 4-6 weeks and 1 week beyond normalization of the liver values.

Also consider Leptospirosis testing (i.e., blood and urine PCR, serology), particularly if the liver enzyme elevation is acute in nature.

Regarding the mild prostatomegaly, consider a urine BRAF test to screen for lower urinary tract neoplasia, particularly if the clinical suspicion for disease is high. It should be noted, however, that a negative BRAF test does not exclude the possibility of cancer. Therefore, if a negative result is obtained and there is still significant concern for neoplasia, further diagnostics, (i.e., traumatic urethra catheterization or surgical biopsy) may be warranted.







The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. 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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