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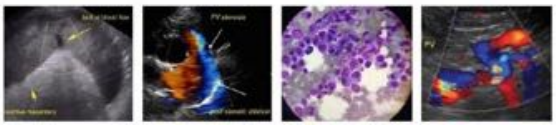


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT
Duke Buettgen

SPECIES
Canine

BREED
Doberman

SEX
Neutered Male

AGE
5 years

WEIGHT
36 kg

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

IMAGING PERFORMED BY
Crystal Hill

HOSPITAL NAME
Governors Rd AH

REFERRING VET
Dr. Dogar

INVOICE
11486

DATE
8.25.22

PRESENTING CLINICAL SIGNS

History: Vomiting/ ADR - Uncomfortable mid-abdomen - Moderate ventral deviation of colon with stool in distal colon - ALT levels elevated at 310 - Elevated WBC (neutrophils) - Decreased reticulocytes Has been on Gabapentin and Sulcrate
Abnormal PE/Chem/CBC/UA Results: Please see attached bloodwork and radiographs.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** and visible portion of the pelvic urethra are normal for the degree of luminal distension. The urine is anechoic with no evidence of debris. Cystic calculi and discrete masses are not observed. The region of the trigone and the visible portion of the proximal urethra are normal.

The **prostate** is normal in size (1.32 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

The **left kidney** is normal size (6.49 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. A hyperechoic medullary band is observed adjacent to corticomedullary junction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The **right kidney** is normal size (5.98 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. A hyperechoic medullary band is observed adjacent to 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 (0.80 cm at cranial pole) (0.68 cm at caudal pole) (2.39 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.

The **right adrenal gland** is normal size (0.78 cm at cranial pole) (0.35 cm at caudal pole) (1.74 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 (2.03 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.

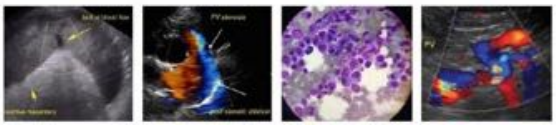
Liver

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 anechoic. The cystic and common bile ducts are normal/not seen.

Gastrointestinal

The **gastric lumen** is moderately distended with ingesta and a small amount of soft, shadowing material. The gastric wall is 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



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layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. The colonic lumen contains shadowing fecal material. There is no obvious 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 **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, infiltrative neoplasia (less likely)) cannot be excluded.

Secondary Findings

- The medullary bands seen in both kidneys may be a benign incidental finding or may be secondary to subclinical renal disease

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Consider pre-and postprandial serum bile acids to assess hepatic function, along with Leptospirosis testing (i.e., blood and urine PCR, serology). If hepatic dysfunction is present, consider hepatic tissue sampling, fine-needle aspirate or surgical biopsy. Hepatic cytology is useful in diagnosing infiltrative neoplasia and vacuolar hepatopathy but is less beneficial in assessing for other hepatopathies. Given the patient's breed, there is concern for chronic active hepatitis and copper-associated hepatotoxicity. Therefore, surgical biopsies are the preferred method for hepatic tissue sampling in this patient. If pursued, aerobic and anaerobic bile cultures are recommended along with acquisition of additional hepatic tissue samples for potential copper quantitation. Clotting times (PT/PTT) should be performed prior to any tissue sampling.

If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis/Leptospirosis (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 a malabsorption panel including serum cobalamin and folate, TLI and PLI to assess for microscopic gastrointestinal or pancreatic disease.

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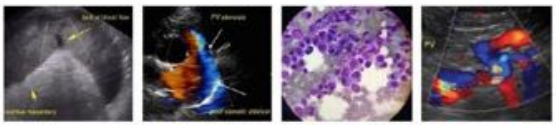

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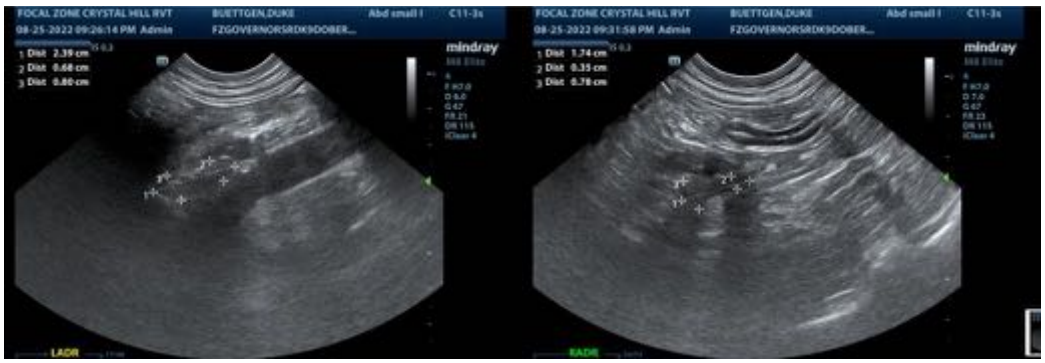
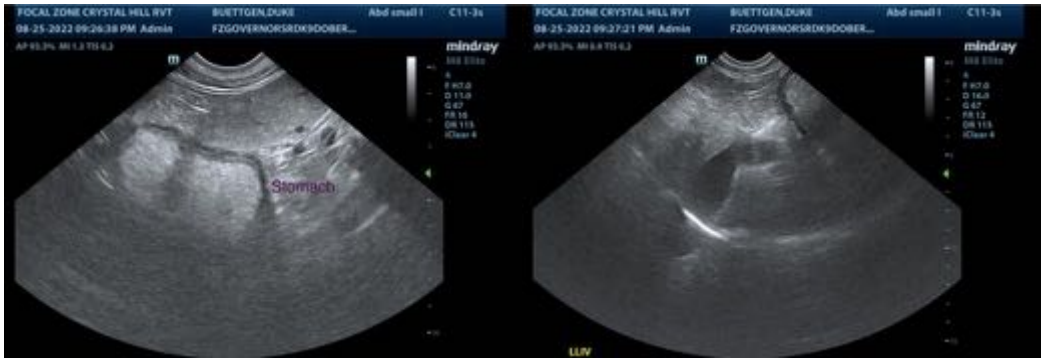
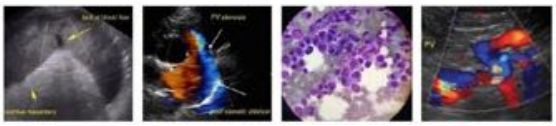




The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I



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can be of any further assistance, please contact me.

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