


**PATIENT PRESENTING CLINICAL SIGNS**

Rozi Cameron

History: Rozi have been drinking a lot and urination a lot recently, she had weight loss. Her blood work showed increased liver enzymes, low thyroid levels. Her free t4 levels are normal. Results of the urine test are pending

**SPECIES**

Abnormal PE/Chem/CBC/UA Results: High ALT, ALP and GGT High sodium, cholesterol, Precision PSI

Canine

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

Rhodesian Ridgeback

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.

**SEX**

Female, spayed

The left kidney is normal size (6.91 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**AGE**

11 Yrs.

The right kidney is normal size (7.69 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. 1-2 small cortical cysts are observed at the caudal pole. Renal vasculature is normal.

**WEIGHT**

36.5 kg.

*Adrenal Glands*
**INTERPRETED BY**

The left adrenal gland is normal size (0.82 cm at cranial pole) (0.86 cm at caudal pole) (2.87 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.

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

The right adrenal gland is normal size (1.70 cm at cranial pole) (0.62 cm at caudal pole) (2.50 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.

**IMAGING PERFORMED BY**

Kelly Reshny, RVT

*Spleen*
**HOSPITAL NAME**

Hespeler AH

The spleen is normal in size (2.06 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.

**REFERRING VET**

Dr. Bhinder

*Liver*

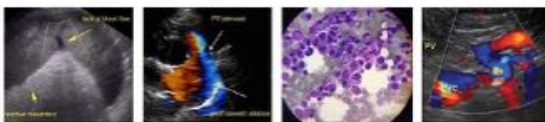
The liver is subjectively prominent in size with normal curvilinear peripheral contours. The parenchyma is isoechoic relative to the spleen and subtly heterogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gallbladder is of normal contours and contains some dependent echogenic debris. The wall is normal in thickness. No choleliths are observed. The cystic and common bile ducts are normal.

*Gastrointestinal*

The gastric lumen is not overtly distended. The gastric wall is normal in thickness with a normal layering pattern. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a

**DATE**

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**PATIENT**

Rozi Cameron

normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

***Pancreas***

**SPECIES**

Canine

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.

**BREED**

Rhodesian Ridgeback

***Free Abdomen***

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

**SEX**

Female, spayed

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings:**

- Non-specific diffuse hepatopathy. Possible differentials could include an inflammatory hepatopathy (i.e., chronic active hepatitis, bacterial cholangiohepatitis), hepatotoxicosis, Leptospirosis, infiltrative neoplasia (unlikely), other hepatopathy +/- concurrent age-related change (i.e., regenerative nodular hyperplasia and/or vacuolar hepatopathy). Correlation with the patient's liver enzyme pattern would be useful in determining which etiologies are more likely.

**AGE**

11 Yrs.

**Secondary Findings:**

- Minor, non-specific age-related renal changes.

**WEIGHT**

36.5 kg.

**INTERPRETED BY**

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(*Small Animal Internal  
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- Pre- and post-prandial serum bile acids.
- Leptospirosis testing (blood and urine PCR, serology).
- Ultimately, hepatic tissue sampling (i.e., fine needle aspiration or surgical biopsy may be necessary to get a definitive diagnosis. Surgical biopsies would be ideal in that they are more representative of global organ pathology. If surgical biopsies are pursued, aerobic and anaerobic bile cultures and acquisition of additional hepatic tissue samples for potential copper quantitation are recommended.
- If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis (amoxicillin-clavulanic acid +/- metronidazole, hepatic antioxidants). If no improvement in the liver values is seen within 5-7 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.
- If the patient is to undergo anesthesia, three-view thoracic radiographs are recommended to assess cardiopulmonary status.

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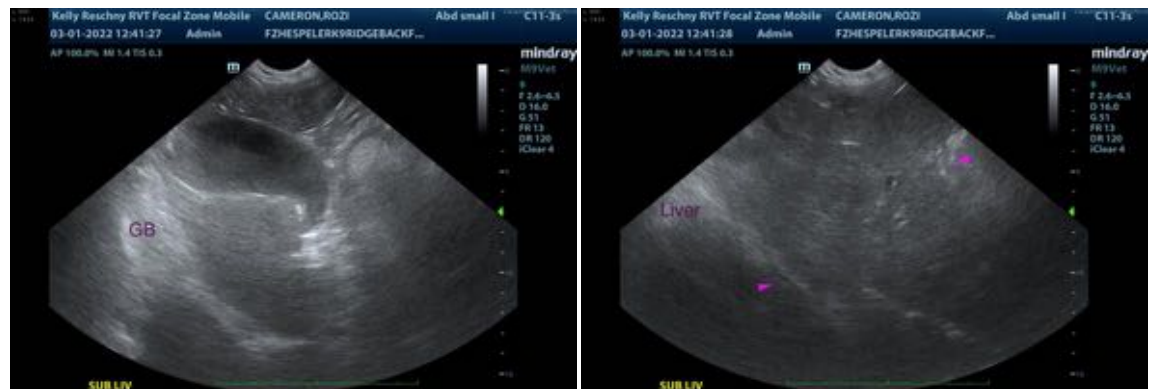
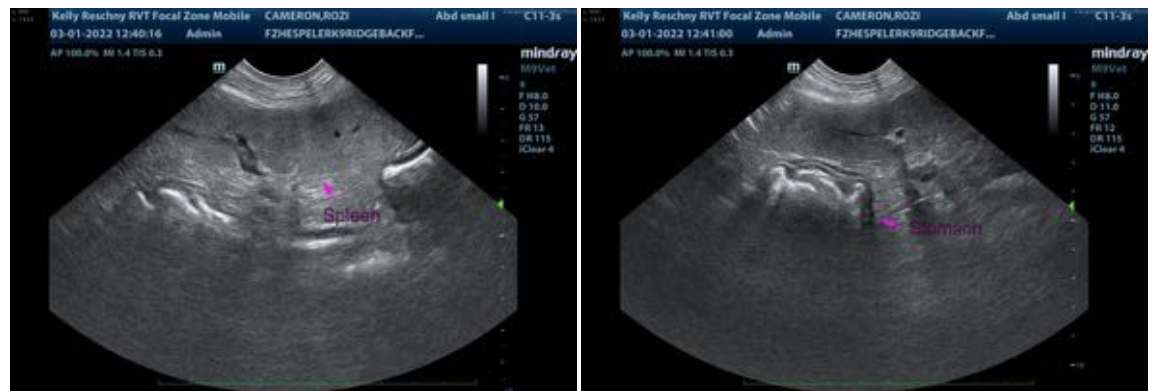
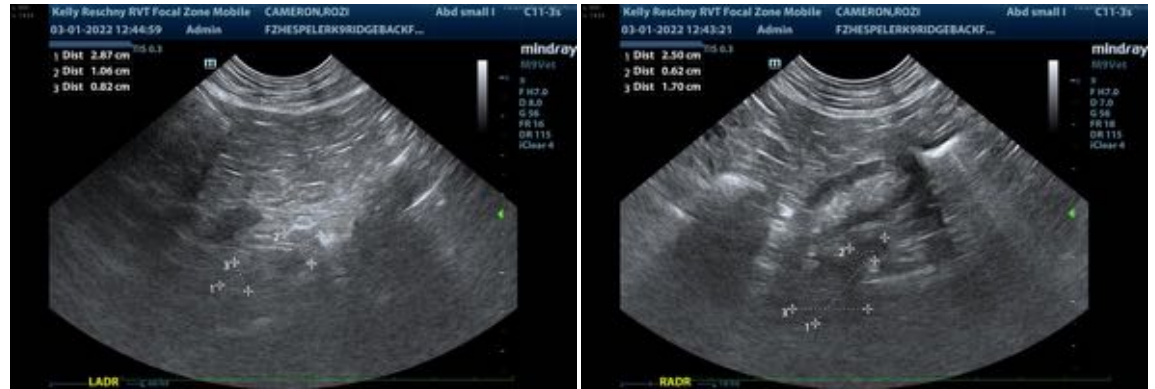
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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

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