



**PATIENT**

Delilah Shiber

**SPECIES**

Canine

**BREED**

Rat Terrier

**SEX**

FS

**AGE**

13 year old

**WEIGHT**

22.5 lbs.

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

**IMAGING PERFORMED BY**

Kelly Vazquez

**HOSPITAL NAME**

Westwood Regional  
VH

**REFERRING VET**

Dr. George Cattiny

**INVOICE**

15828

**DATE**

1/13/23

**PRESENTING CLINICAL SIGNS**

Patient presents for elevated liver values.

Current med: Denamarin.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder was mildly subnormal in size owing to a lack of urine distention, which prohibited full evaluation of the urinary bladder walls. No overt inflammatory or neoplastic criteria was noted.

Mild anechoic urine was present in the urinary bladder with no sediment or calculi. The urethra exhibited normal structure and tone to a depth of 2.0 cm.

The area of the aortic trifurcation was free of pathology.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Bilateral pinpoint medullary mineral were noted. The left kidney measured 4.6 cm in length. The right kidney measured 4.9 cm in length.

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 2.3 cm length x 0.55 cm width at the caudal pole. The right adrenal gland measured 1.9 cm length x 0.42 cm width at the caudal pole. No adrenomegaly or tumors were noted.

**Spleen**

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.

**Liver/ Gallbladder**

The liver exhibited subjective mild enlargement. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion. Intermittent nondisruptive, well-demarcated, mildly hyperechoic intraparenchymal nodules were present with an example measuring 1.0 cm in diameter. The gallbladder was non-distended in size containing primarily anechoic content with mild, non-dependent, mobile, echogenic, luminal gallbladder debris. No evidence of gallbladder or peripheral gallbladder inflammatory criteria was noted. The cystic and common bile ducts were normal.



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***Gastrointestinal***

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction, or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

***Pancreas***

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

***Free Abdomen***

No overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS**

- Mild to moderate chronic renal changes
- Chronic hepatopathy exhibiting nonhomogeneous intermittently nodular parenchyma
- Mild gallbladder debris (non-mucocele)
- Pancreatic remodeling - suspect age-related pancreatic changes and benign remodeling possibly owing to previous inflammatory episode, potential for low-grade chronic pancreatitis

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The liver presentation was nonspecific yet consistent with chronic likely benign hepatopathy, chronic vacuolar hepatopathy, inflammatory disease, probable areas of intermittent intraparenchymal nodular hyperplasia, lipogranulomas, hematopoiesis, potential for early fibrosis, nonobstructive cholestasis or other hepatopathy with infiltrative neoplasia thought less likely. Further assessment may include screening FNA hepatic cytology, assuming normal clotting status +/- Leptospirosis titers / PCR if potential exposure, or clinically indicated. The addition of Ursodiol to current Denamarin may prove beneficial.

No overt suspicion of adrenal disease given the normal adrenal presentation and lack of reported clinical signs i.e., PU/PD, polyphagia, etc.



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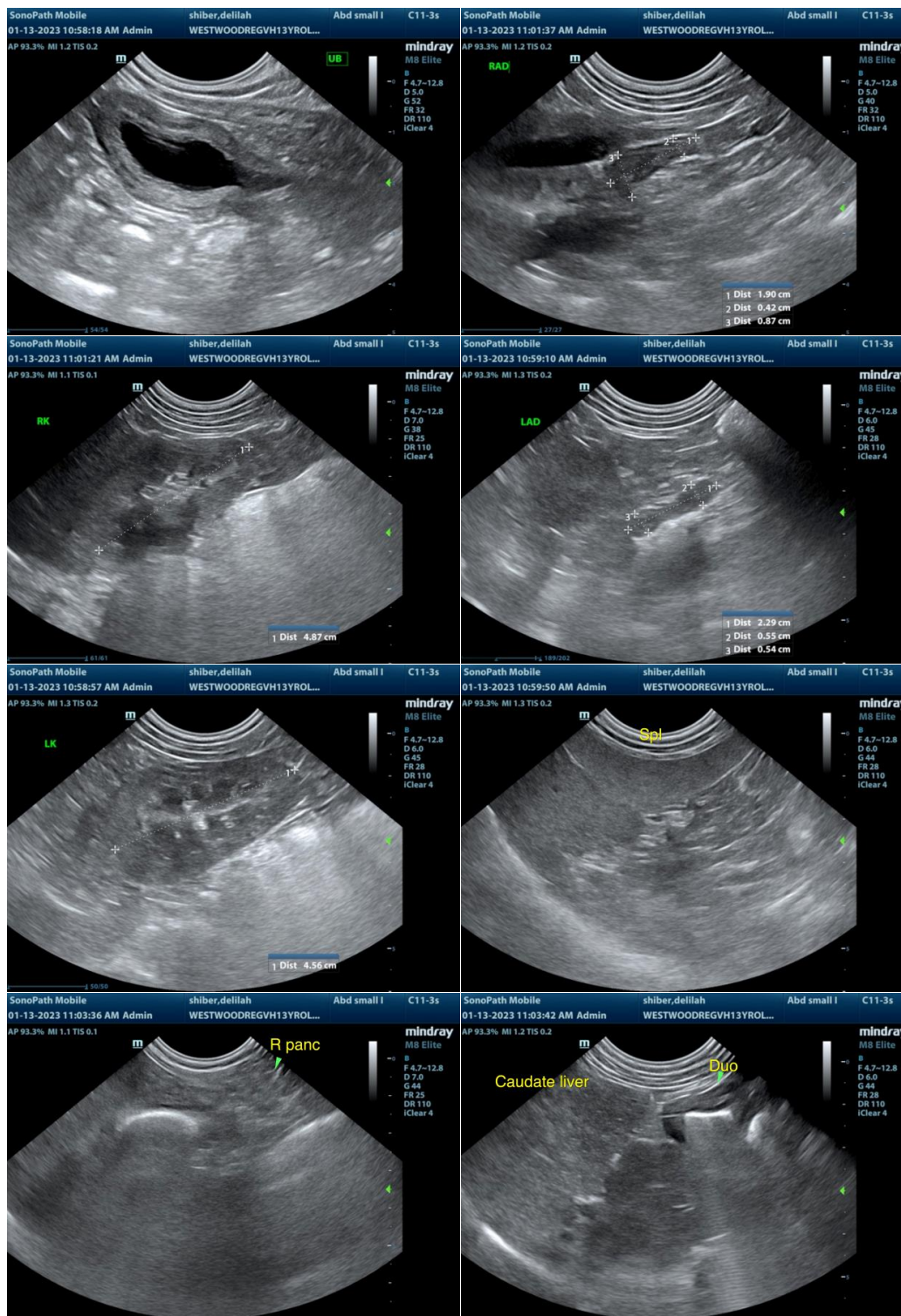
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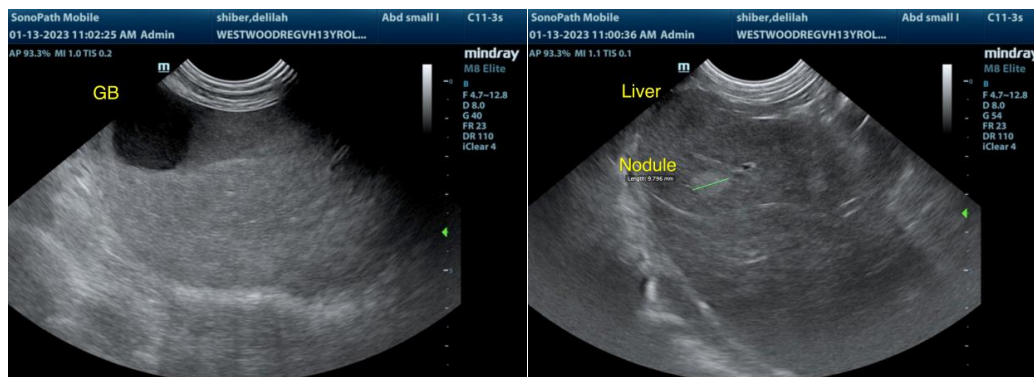
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**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

**R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)**  
info@SonoPath.com