

**PATIENT**

Howler Bradford

**SPECIES**

Canine

**BREED**

Chihuahua Mix

**SEX**

MN

**AGE**

6y

**WEIGHT**

18.6 lbs.

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Jenna Walsh, CVT

**HOSPITAL NAME**

VCA Mckenzie  
Animal Hospital

**REFERRING VET**

Dr. Arpaia

**INVOICE**

15561

**DATE**

11/22/22

**PRESENTING CLINICAL SIGNS**

Possible seizure events- head tremors. Hx of phenobarbital induced hepatopathy. New history of restlessness, pacing, agitation and turning to look at abdomen and poke abdomen with nose repeatedly. Several nights pacing from 9pm-5:30am unable to rest or sleep

Current Medications Gabapentin 100mg PO BID; Zonisamide 50 mg: Give 1 tablet by mouth every 12 hours for seizure control Radiographic Findings none Primary Question/Differential to Be Answered in This Exam Underlying causes of behavioral change, Any hepatic pathology

Abnormal PE/Chem/CBC/UA Results: ALP elevation

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no evidence of sediment or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

The residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture measuring 0.60 cm in diameter.

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 and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 4.5 cm in length. The right kidney measured 4.8 cm in length.

**Adrenal Glands**

The bilateral adrenal glands were mild prominent in size based on caudal pole width measurement in light of body weight. The adrenal glands primarily maintained symmetrical adrenal capsule contour and homogeneous parenchyma without evidence of parenchymal mineralization or adrenal tumors. The left adrenal gland measured 1.9 cm length x 0.66 cm width at the caudal pole. The right adrenal gland measured 2.1 cm length x 0.59 cm width at the caudal pole.

**Spleen**

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. 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. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.



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***Liver/ Gallbladder***

The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size containing mild, primarily dependent, nonorganized, echogenic gallbladder debris. No evidence of gallbladder or peripheral gallbladder inflammatory criteria was noted. The cystic and common bile ducts were normal.

***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**

- Vacuolar hepatopathy pattern - benign
- Mild gallbladder debris (non-mucocele)
- Heterogeneous pancreas - patient variant, mild remodeling potentially owing to previous inflammatory episode, low-grade to chronic pancreatitis are all potentials
- Sonographically unremarkable gastrointestinal tract
- Mildly prominent bilateral adrenal glands - nonspecific

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Overall, no overt evidence of significant visceral pathology.

Hepatosupportive medications including Denamarin and Ursodiol may prove beneficial. Given the lack of ALT elevation, hepatic inflammation, or residual hepatotoxicosis is considered less likely.



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Potential for low-grade or chronic pancreatitis may be suspected if evidence of cranial abdominal or subxiphoid discomfort on palpation. Correlation with a Spec cPL may be considered.

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Likely incidental prominent bilateral adrenal glands, given the lack of reported clinical signs suggestive of adrenal hyperfunction, i.e., PU/PD, Polyphagia, etc.

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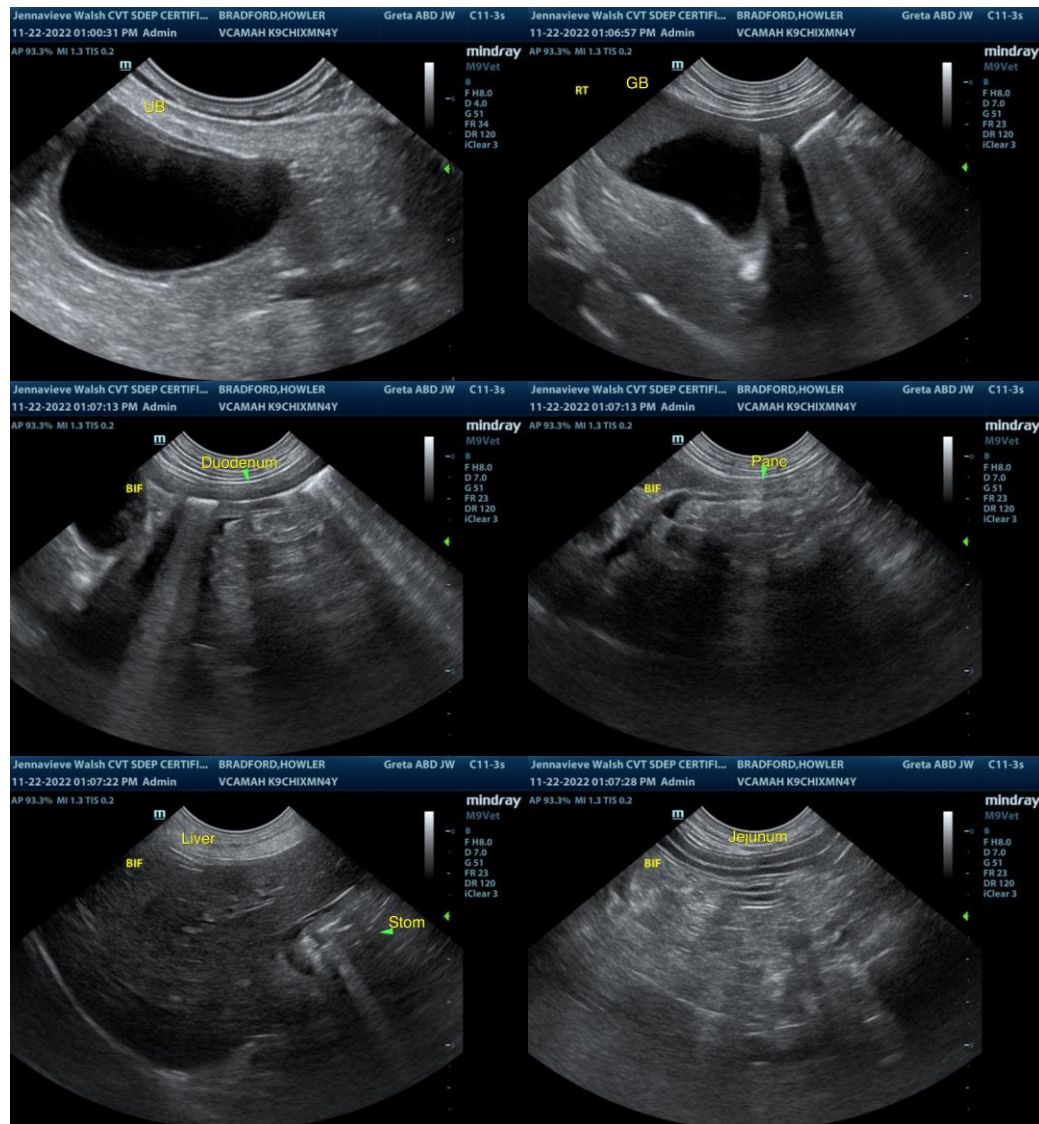
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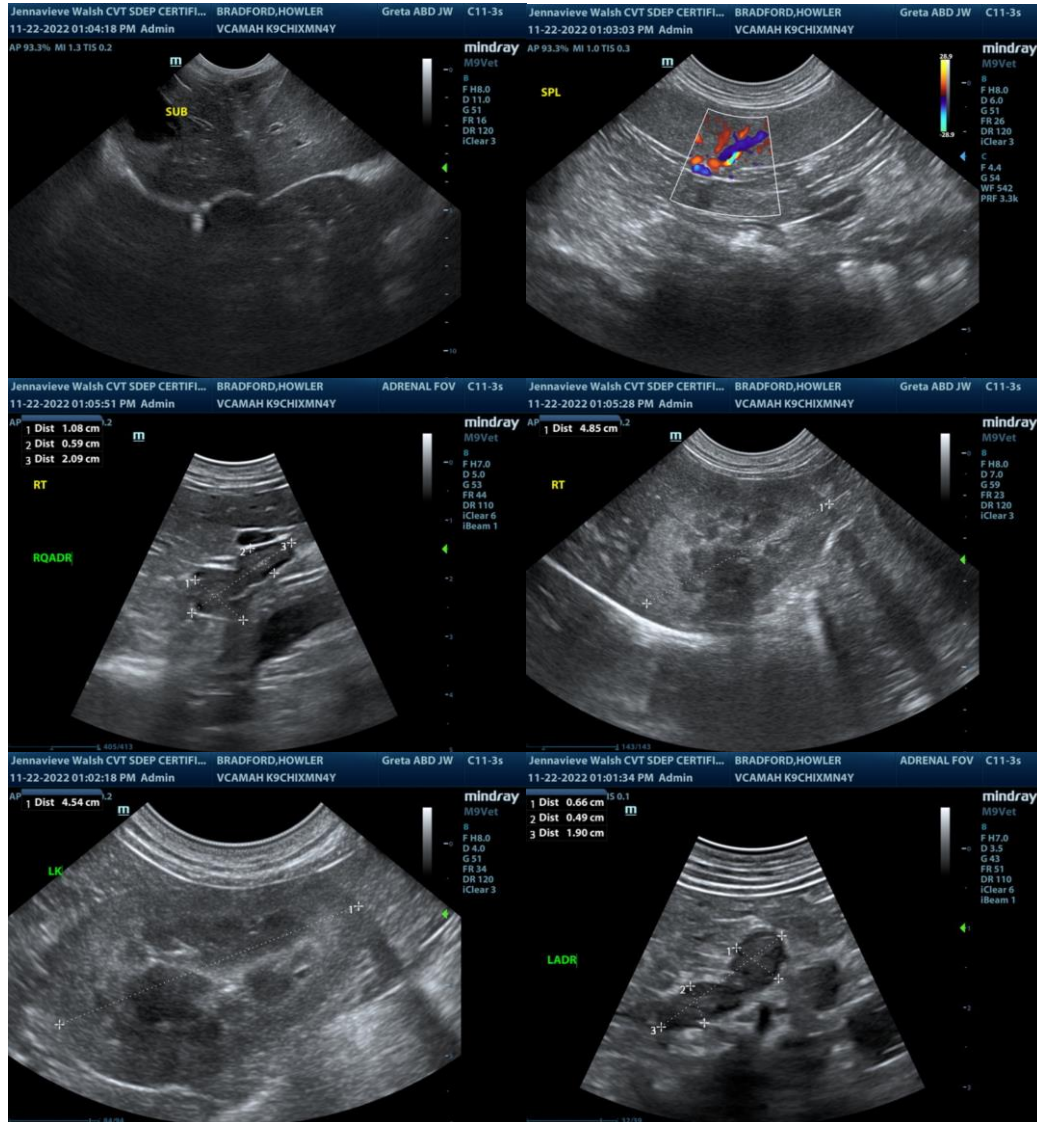
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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