



**PATIENT**

Penny Lane Hickson

**SPECIES**

Canine

**BREED**

Miniature Poodle

**SEX**

FS

**AGE**

9 years, 3 months

**WEIGHT**

6.96 kgs

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Jenna Walsh, CVT

**HOSPITAL NAME**

Banfield of South  
Eugene

**REFERRING VET**

Dr. Harvey & Dr.  
Schmidt

**INVOICE**

14850

**DATE**

8/17/23

**PRESENTING CLINICAL SIGNS**

Presenting complaint: Pt presents for bile acid testing and hepatic panel. Last ate at 7pm 7/31/23. Elevated liver enzymes originally noted on routine bloodwork (6/3/23) in preparation for dental cleaning. Previously within reference interval 9/2022 Systems: e/d/u/def normally. no s/v/d- Occasional cough, O thinks poss allergies Diet: purina one 1/2c 2x a day but doesn't eat it all Chronic conditions: none reported Current meds/supplements: denamarin (couple days would not take it) Lifestyle: lots of walks Hx - Collitis - resolved Hx - Overweight - improving Primary Question/Differential to Be Answered in This Exam DDX of autoimmune, microvascular dysplasia, copper storage, neoplasia, other.

Abnormal PE/Chem/CBC/UA Results: BW-Pre-draw @ 8:15 am Fed Recovery @ 8:43 am BW- Post draw @ 10:54 AM Bile acid Pre- 93.4 (0.0-14.9) Bile Acid Post- 38.2 (0.0-29.9) Hepatic Panel ALB- 3.2 (2.2-3.9) ALKP-105 (23-212) ALT- 315 (10-125)\*\*\* H GGT- 0 (0-11) TBIL- 0.3 (0.0-0.9)

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

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

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. There was no evidence of renomegaly or renolithiasis. The left kidney measured 4.4 cm in length. The right kidney measured 4.8 cm in length.

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.50 cm width at the caudal pole and 0.61 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.66 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 was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. Normal to adequate hepatic vascular volume was noted. The gallbladder was non-distended in size containing primarily anechoic content with minor particulate gallbladder sediment. The cystic and common bile ducts were normal. No evidence of inflammatory criteria was noted.

***Gastrointestinal***

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained echogenic, nonshadowing ingesta, sonographically consistent with food without signs of 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 parenchyma of the left limb, body, and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease were evident.

***Free Abdomen***

No overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS**

- Sonographically unremarkable normal volume liver
- Minor gallbladder sediment
- Normal bilateral kidneys and urinary bladder - no evidence of urinary tract mineral / calculi
- Mild gastric ingesta - sonographically consistent with food

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There was no sonographic evidence of an extrahepatic or intrahepatic macroscopic shunt. The overall liver was consistent with nonspecific benign hepatopathy with considerations including inflammatory / immune-mediated disease, toxic hepatopathy i.e., copper, vacuolar hepatopathy, potential for portal hypoplasia / microvascular dysplasia, given mildly elevated postprandial bile acids, or other hepatopathy, are all potentials.

Assuming normal clotting status, hepatic FNA cytology could be considered to assess for potential inflammatory criteria. Hepatic core or surgical biopsy is likely required for a definitive diagnosis. Hepatosupportive medications may prove beneficial.



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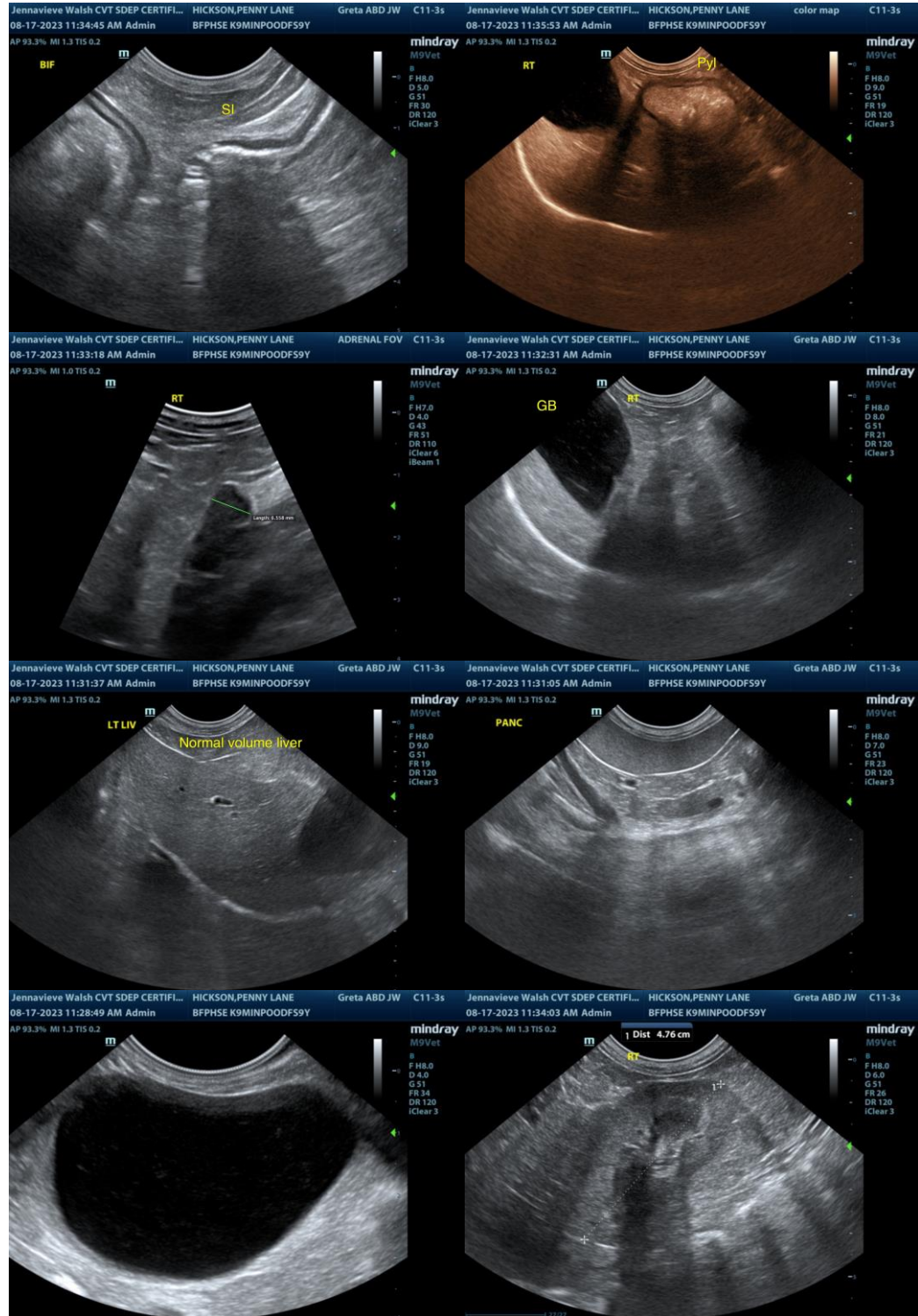
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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