



**PATIENT**

Patrick Stowe- Emery

**SPECIES**

Canine

**BREED**

Pomeranian

**SEX**

Neutered Male

**AGE**

6 Years

**WEIGHT**

16.8 Pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Sara Hansen

**HOSPITAL NAME**

Q Street AH

**REFERRING VET**

Dr. Hoerauf

**INVOICE**

14425

**DATE**

3/21/22

**PRESENTING CLINICAL SIGNS**

History: Chronic liver enzyme elevation, initially responding to treatment with Ursodiol and Denamarin. Recently, liver enzymes have begun to rise again. Previous ultrasound 10-18-21.

Abnormal PE/Chem/CBC/UA Results: ALT 332, ALP 159

**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. Very minor nondependent particulate sediment was present, which may indicate minor cellular debris/protein, crystalline debris or minor mucus. The ureteral papillae were normal. The ureters were not visible which is normal. The bladder was otherwise normal without evidence of inflammatory mural criteria.

The residual prostate was free of pathology.

Aortic trifurcation was normal.

Both kidneys were normal, exhibiting pinpoint static areas of medullary mineral. The left kidney measured 4.0 cm in length. The right kidney measured 3.9 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 0.55 cm width at the caudal pole and 0.36 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 0.51 cm width at the caudal pole and 0.48 cm width at the cranial 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.

**Liver**

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. The gallbladder walls were sonographically unremarkable without inflammatory criteria. Mild, nondependent, yet nonorganized luminal debris, along with mild irregular hypoechoic rim noted between the nondependent debris and inner luminal wall, suggestive of mucus. The cystic and common bile ducts were normal.

**Gastrointestinal**



**PATIENT**

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.

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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.

Canine

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

**BREED**

**Pancreas**

Pomeranian

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

**SEX**

**ULTRASONOGRAPHIC FINDINGS**

Neutered Male

- Static, pinpoint renal medullary mineral
- Benign hepatopathy- subjectively static compared to previous ultrasound
- Mild, nondependent gallbladder debris with suspect peripheral luminal mucus
- Mild, particulate urinary bladder sediment

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**INTERPRETED BY**

Urinalysis +/- urine culture and sensitivity, if evidence of inflammatory cells, is suggested.

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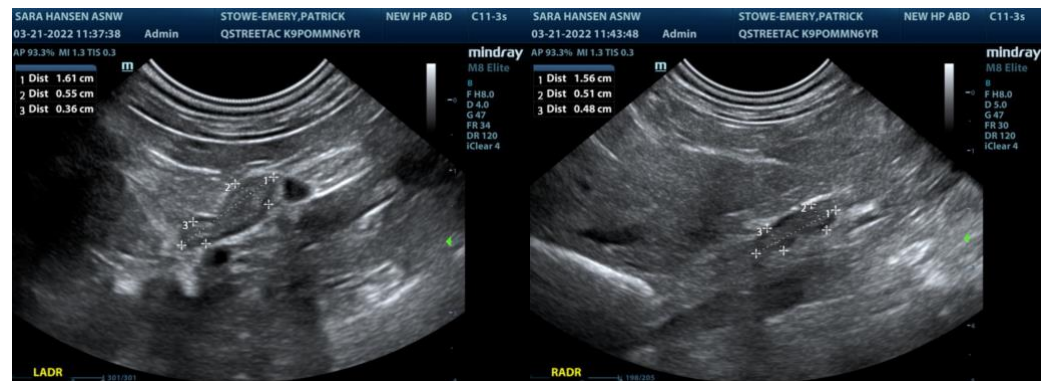
The overall appearance of the liver was nonspecific yet consistent with benign hepatopathy. Considerations may include inflammatory/immune mediated disease, given the primary elevated ALT, with potential for idiopathic vacuolar hepatopathy and cholestasis, given the ALP and presence of gallbladder debris. Potential for very early gallbladder mucocele possible. Further assessment may include hepatic FNA, for screening cytology, obtained without complication during the ultrasound. Core or surgical hepatic biopsy may be required for a definitive diagnosis. Empirically, continued hepatosupportive medications, including ursodiol is recommended. No overt evidence of a vascular anomaly, given the normal hepatic volume.

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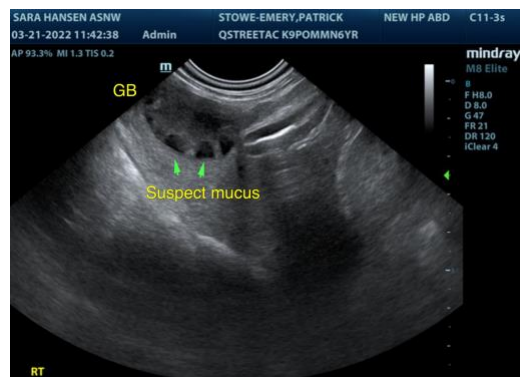
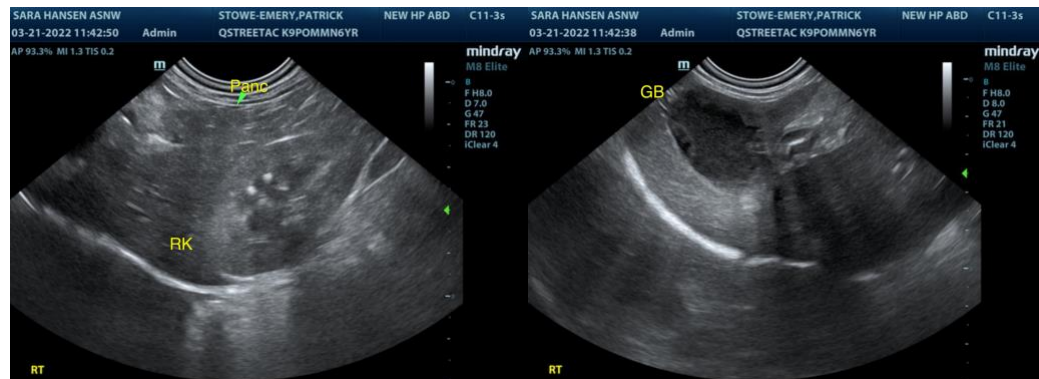
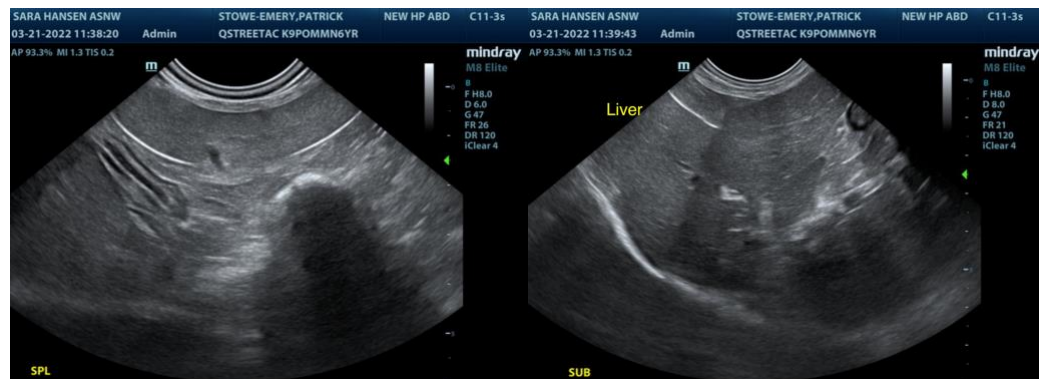
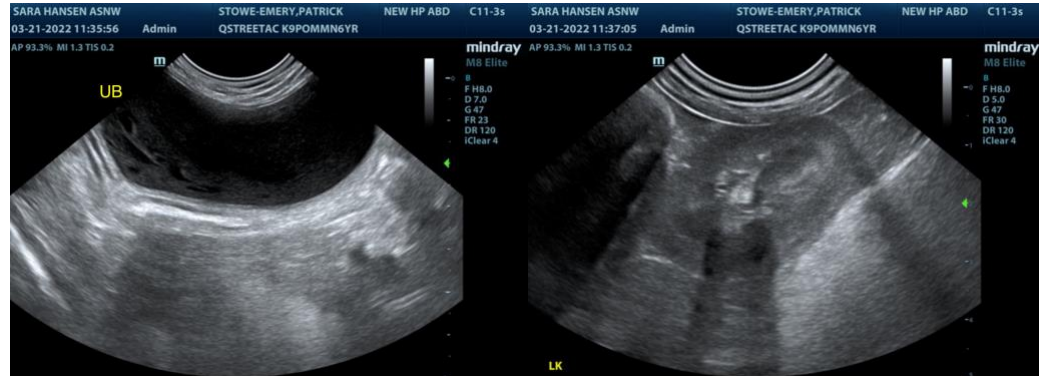
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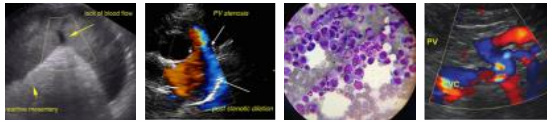
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**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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**