



**PATIENT**

Sanger Carrick

**SPECIES**

Canine

**BREED**

Shepherd Mix

**SEX**

Neutered Male

**AGE**

7 Years 6 Months

**WEIGHT**

29.5 kg

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Patti Mayfield, DVM

**HOSPITAL NAME**

Tumalo AH

**REFERRING VET**

Rebecca Cochran, DVM

**INVOICE**

21650

**DATE**

3/15/23

**PRESENTING CLINICAL SIGNS**

History: Patient presented for evaluation of chronic ocular discharge (mucoïd) with intermittent nasal discharge. No reported CSVD Patient was BAR Patient is not up to date on vaccines AUS performed due to elevated LE's detected on routine blood work. No known exposure to toxins or noxious substances Patient was sedated with dexdomitor/butorphanol to facilitate exam

Abnormal PE/Chem/CBC/UA Results: PE: - Mild conjunctivitis - Fluorescein stain NEG OU - Remainder unremarkable Routine blood work: 3/3/23: CHEM: -- ALT: 1136 U/L (18-121) -- AST: 226 U/L (16-55) -- ALP: 238 U/L (5-160) -- GGT: 24 U/L (0-13) -- TBILI (wnl): 0.3 mg/dL (0-0.3) CBC: -- HCT: 57.8 % (38.3-56.5) -- remainder wnl UA: pending

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 5.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no mineral or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

The area of the residual prostate appeared normal and free of pathology.

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 6.4 cm in length. The right kidney measured 7.4 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 3.0 cm length x 0.72 cm width at the caudal pole.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 2.6 cm length x 0.62 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.

**Liver**

The liver was borderline to mild subnormal in size with areas of capsule asymmetry and generalized nonhomogenous to irregular hepatic parenchyma. Subjective adequate hepatic vascular volume was noted. No evidence of hepatic masses.

The gallbladder appeared to be mildly distended in size compared to liver size, containing anechoic content with mild nondependent nonorganized mildly hyperechoic gallbladder debris. No evidence of



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gallbladder or peripheral gallbladder inflammatory criteria. The cystic and common bile ducts were normal.

**Gastrointestinal**

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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.

Normal visible colon wall layers were present with subjective semi-formed to soft fecal matter in the proximal colon.

**SEX**

**Pancreas**

Neutered Male

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 was evident.

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**Free Abdomen**

No overt lymphadenopathy or peritoneal effusion was present.

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**ULTRASONOGRAPHIC FINDINGS**

- Chronic hepatopathy, exhibiting borderline/mild subnormal hepatic size
- Mild gallbladder debris (non-mucocele)
- Sonographically unremarkable kidneys and urinary bladder- no evidence of urinary tract mineralization

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Sonographically, the appearance of the liver is most consistent with chronic benign hepatopathy. Although non-specific, primary suspicion for nonspecific chronic inflammatory hepatic disease, given the primarily elevated ALT/AST combination with potential for primary or concurrent vacuolar hepatic changes, nonobstructive cholestasis or other hepatopathy possible. Hepatic functionality may be considered adequate if normal BUN, glucose, albumin and cholesterol levels, however, further assessment may include bile acid testing, as well as hepatic sampling, either via ultrasound guided FNA (if accessible) for screening cytology, or gold standard core or surgical biopsy +/- Leptospirosis titers/PCR. Empirically, hepatosupportive medications including Denamarin and Ursodiol are suggested.

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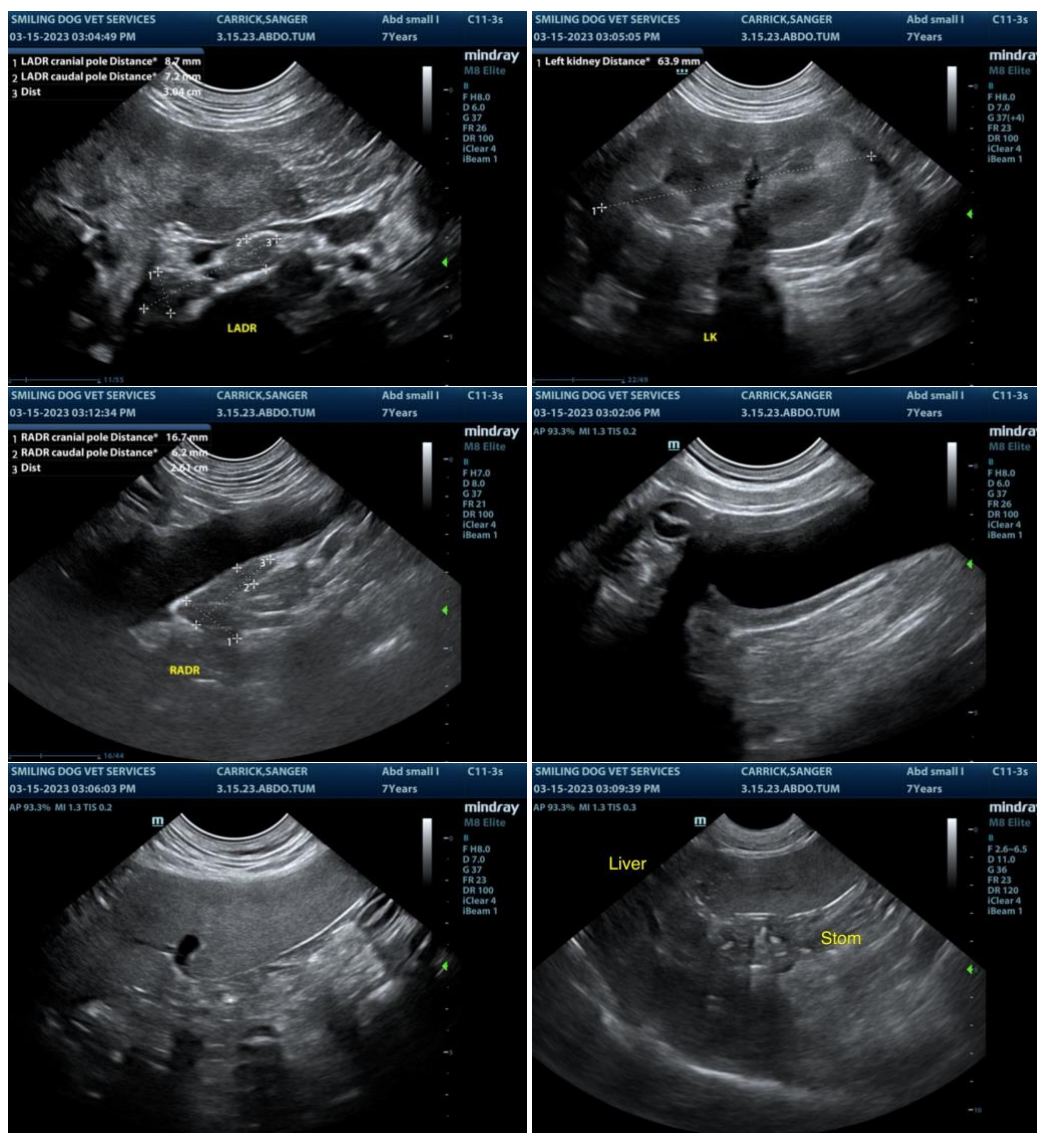
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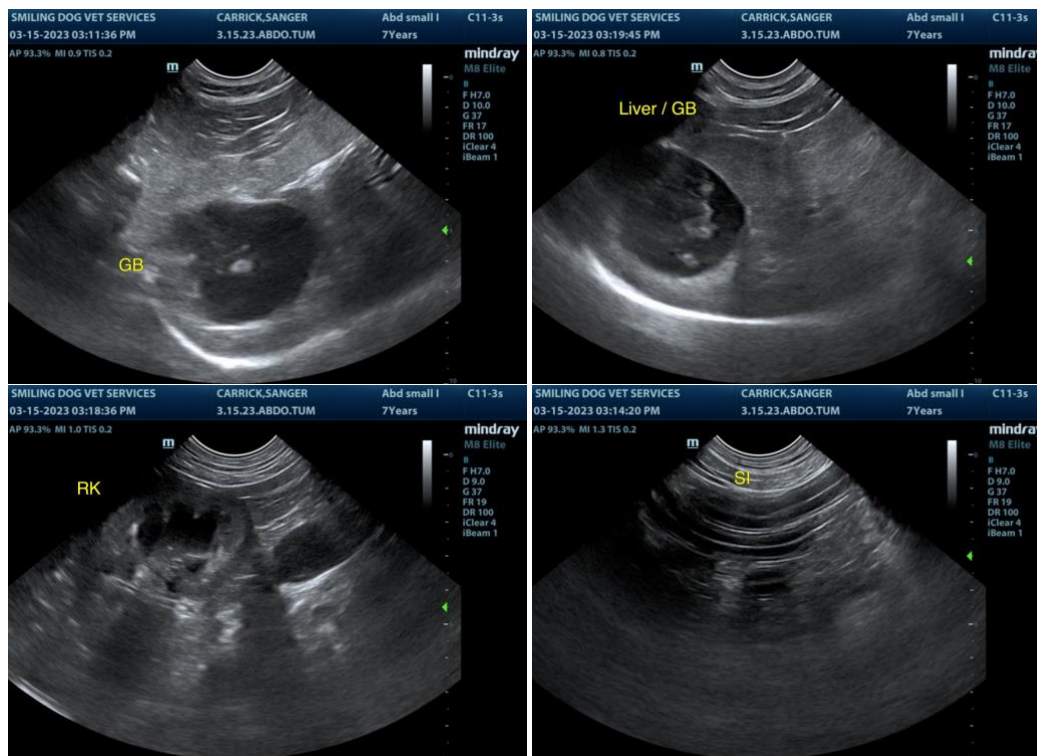
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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