



**PATIENT**

Neuman Brooke

**SPECIES**

Canine

**BREED**

Scottish Terrier

**SEX**

Neutered Male

**AGE**

9

**WEIGHT**

12.3

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Dr. Belan

**HOSPITAL NAME**

Sunridge VH

**REFERRING VET**

Dr. Magill

**INVOICE**

21338

**DATE**

2/28/23

**PRESENTING CLINICAL SIGNS**

History: Pendulous abdomen and anorexic. Owner concerns about possible Ab mass based on history with previous dogs.

Abnormal PE/Chem/CBC/UA Results: Mild Elevation of ALT and Lipase moderate elevation of of ALP

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 4.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. 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, measuring 0.7 cm in width.

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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 5.5 cm in length. The right kidney measured 5.9 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 0.46 cm width at the cranial pole and 0.65 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 0.53 cm width at the caudal pole and 0.54 cm width at the cranial pole.

No evidence of adrenomegaly or adrenal tumors.

**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 enlarged with symmetrical capsule contour. Generalized nonhomogenous hepatic parenchyma echogenicity was noted with moderate coarse echotexture. Intermittent discrete nondisruptive variably sized hypoechoic nodules were noted. An example of nodule size measured 2.2 cm in diameter. The nodules did not distort the hepatic capsule. Hepatic vascular volume was normal.

The gallbladder was non-distended in size with anechoic content and mild nonorganized echogenic gallbladder debris without evidence of gallbladder or peripheral gallbladder inflammation. The cystic and common bile ducts were normal.

**Gastrointestinal**



<b>PATIENT</b>	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.
Neuman Brooke	
<b>SPECIES</b>	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.
<b>BREED</b>	<b>Pancreas</b>
Scottish Terrier	The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.
<b>SEX</b>	<b>Free Abdomen</b>
Neutered Male	No omental masses, lymphadenopathy or peritoneal effusion was present.
<b>AGE</b>	A solitary, mildly prominent to enlarged visualized medial iliac lymph node was present. The lymph node was essentially isoechoic to adjacent omentum without evidence of peripheral inflammation and maintaining a normal width: length ratio (<0.5). The lymph node measured 1.6 cm x 0.44 cm. This is not consistent with inflammatory or neoplastic criteria and considered incidental.
9	
<b>WEIGHT</b>	<b>ULTRASONOGRAPHIC FINDINGS</b>
12.3	<ul style="list-style-type: none"> <li>• Hepatopathy with intermittent discrete intraparenchymal nodules</li> <li>• Mild gallbladder debris (non-mucocele)</li> <li>• Heterogenous pancreas- patient/age-related variant, mild benign remodeling, low grade/chronic pancreatitis are all potentials</li> <li>• Mild age-related kidneys</li> <li>• Sonographically normal bilateral adrenal glands</li> <li>• Sonographically unremarkable gastrointestinal tract</li> </ul>
<b>INTERPRETED BY</b>	<b>INTERPRETATION OF THE FINDINGS &amp; FURTHER RECOMMENDATIONS</b>
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	The overall liver was nonspecific yet most likely consistent with vacuolar hepatopathy or more likely breed associated degenerative vacuolar hepatopathy commonly seen in Scottish Terriers. Inflammatory hepatic disease, i.e., cholangiohepatitis or infiltrative neoplasia is thought less likely. Suspect discrete areas of hepatic hyperplasia, hematopoiesis or similar. Correlation with pending hepatic cytology is recommended. Given the possibility of progressive liver disease in this breed, serial sonographic monitoring, pending cytology, is advised. Hepatosupportive medications, including Denamarin and Ursodiol may prove beneficial. As needed gastrointestinal support and empirical therapy for potential chronic pancreatitis (if clinically indicated) is recommended.
<b>IMAGING PERFORMED BY</b>	
Dr. Belan	
<b>HOSPITAL NAME</b>	
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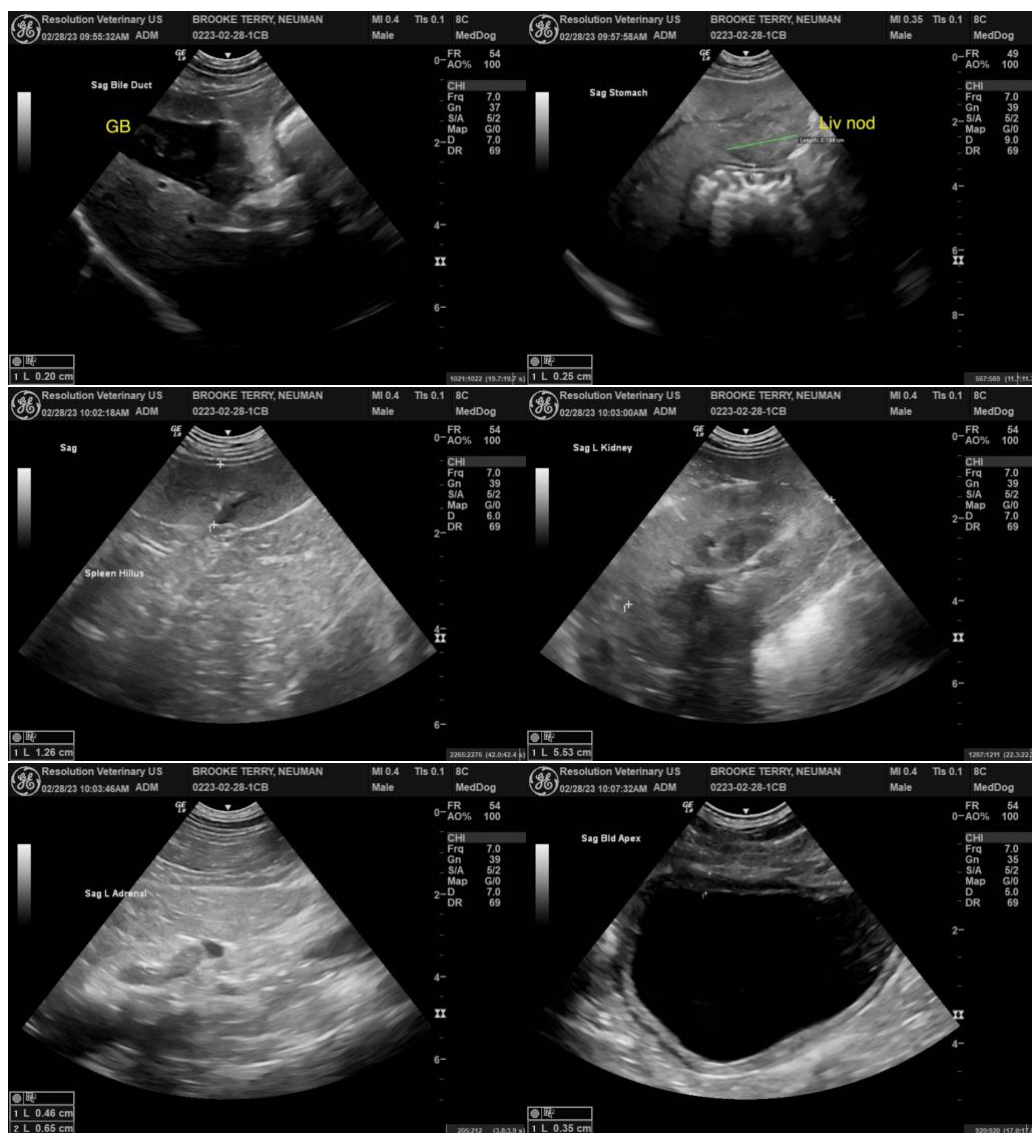
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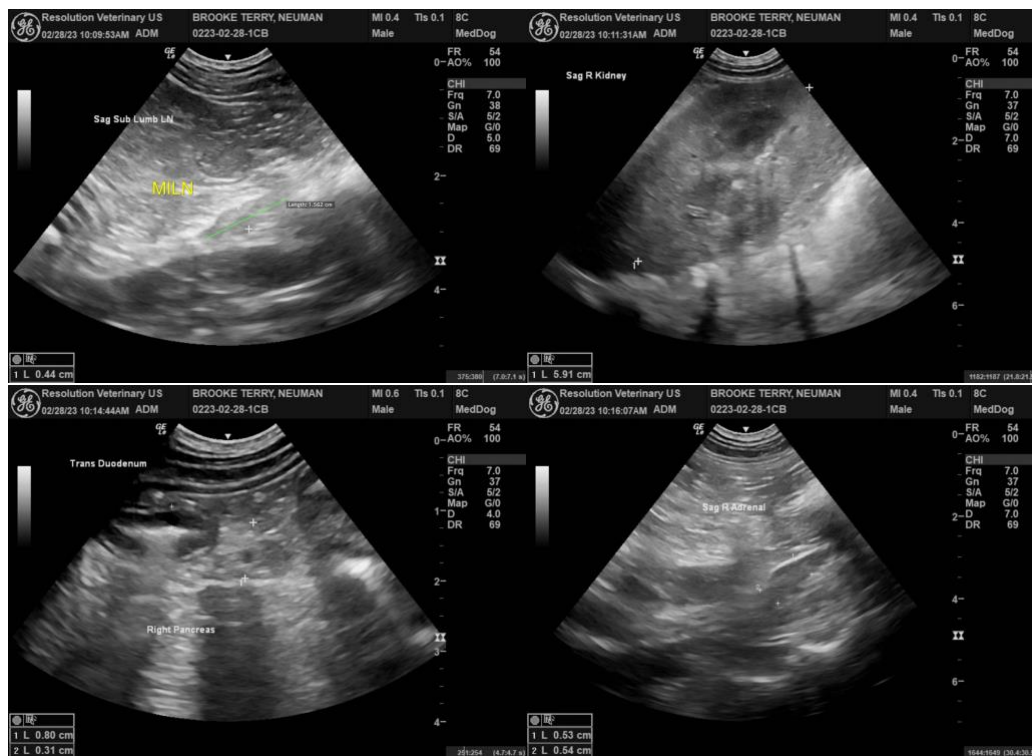
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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