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Clinical Sonography & Telecytology
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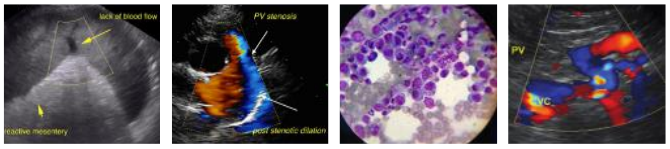


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Leo Boerner

SPECIES

Canine

BREED

Terrier X

SEX

Male Neuter

AGE

12

WEIGHT

7.3 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Belan

HOSPITAL NAME

Signal Hill AH

REFERRING VET

Sr. Cumyn

INVOICE

15863

DATE

6/2/22

PRESENTING CLINICAL SIGNS

Enlarged liver on physical exam Patient was painful to probe pressure on the upper right quadrant was sedated for the last 12 images.

Abnormal PE/Chem/CBC/UA Results: Moderate elevation of liver enzymes and post prandial bile acids

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 uroliths or sediment. 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 0.46 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 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 4.0 cm in length. The right kidney measured 4.2 cm in length.

Adrenal Glands

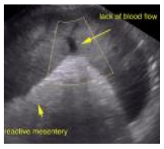
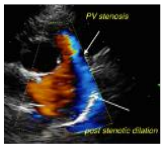
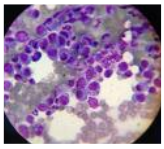
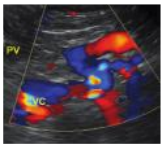
The bilateral adrenal glands were normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 0.44 cm width in the cranial pole and 0.43 cm width in the caudal pole. The right adrenal gland measured 0.67 cm width in the cranial pole and 0.51 cm width in the caudal pole.

Spleen

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.

Liver/ Gallbladder

The liver was moderately enlarged with the ventral liver extending caudally past the level of the gastric axis. Primarily maintained symmetrical capsule contour noted. Generalized nonuniform to mild variably echogenic parenchyma was noted, exhibiting parenchymal remodeling, including intermittent subtle nonhomogeneous intraparenchymal nodules. An example measured 0.8-1.0 cm in diameter. The nodules were nondisruptive to surrounding parenchyma.

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The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. 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 omental masses, lymphadenopathy or evidence of peritoneal free fluid was present.

ULTRASONOGRAPHIC FINDINGS

- Chronic hepatopathy, exhibiting variably echogenic parenchymal remodeling, including intermittent nonspecific, yet likely benign parenchymal nodules
- Moderate chronic renal changes
- Overtly normal gallbladder- no evidence of cholecystitis

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The overall appearance of the liver was nonspecific yet most consistent with chronic benign hepatopathy. Considerations may include chronic vacuolar hepatopathy, nonobstructive cholestasis, inflammatory/immune mediated disease, areas of suspected nodular hyperplasia, hematopoiesis, possible fibrosis, or other hepatopathy with neoplasia considered a less likely differential diagnosis. No overt evidence of a portosystemic vascular anomaly given the hepatomegaly and increased hepatic volume.

Further assessment may include ultrasound guided hepatic FNA, for screening cytology, primarily to assess for or possibly identify inflammatory cell type. Hepatosupportive medications are recommended. Hepatic core or surgical biopsies would be required for a definitive diagnosis.

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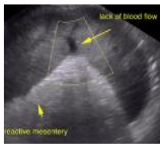
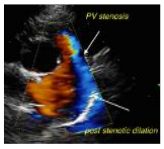
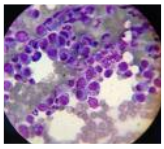
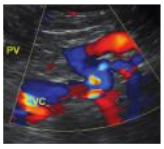

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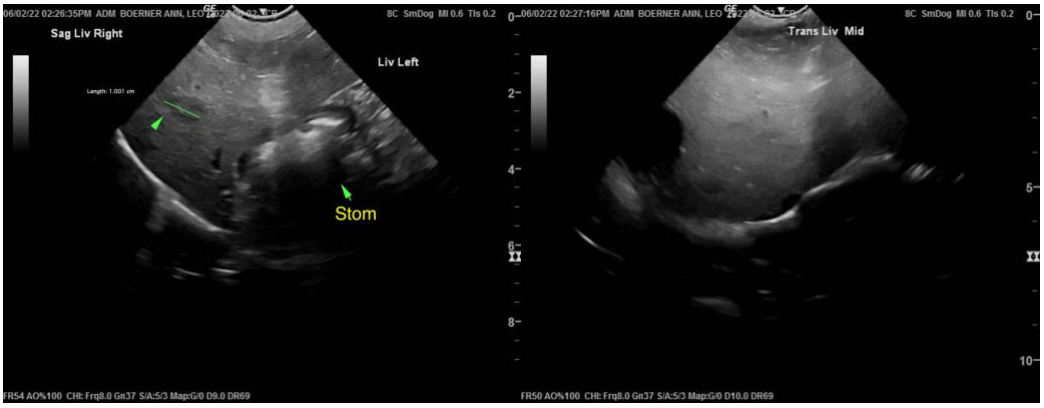

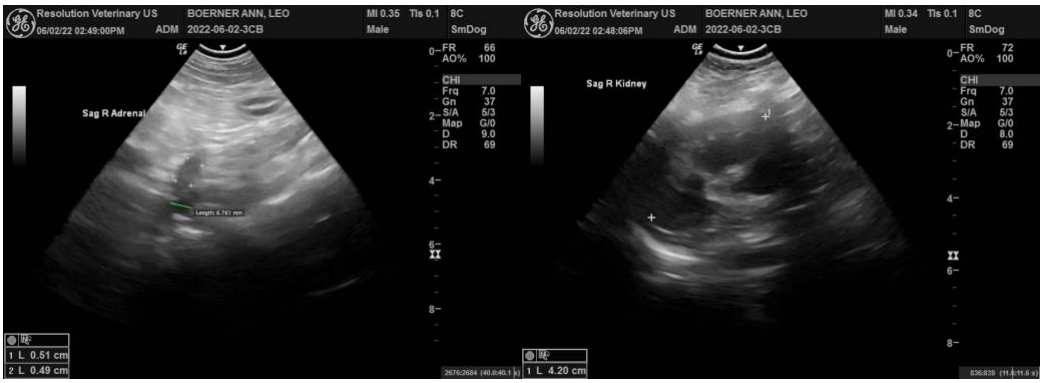

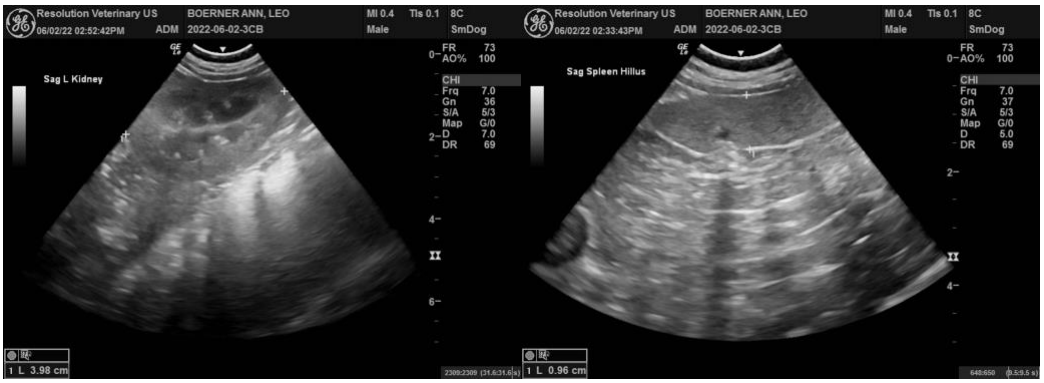

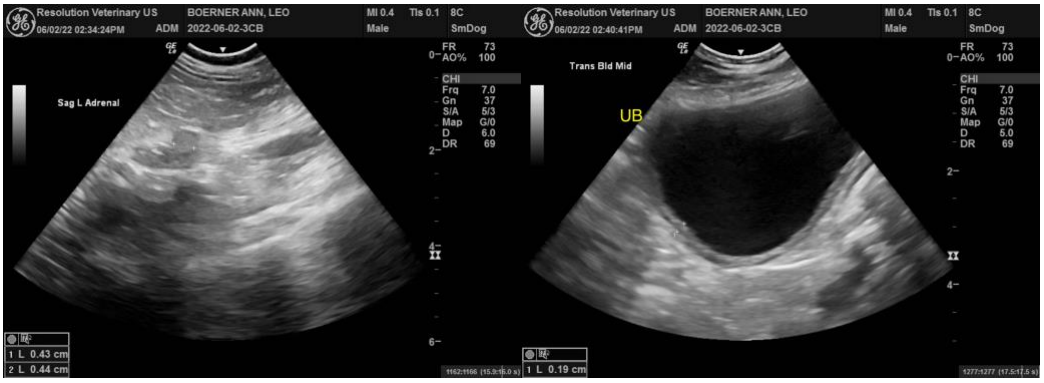

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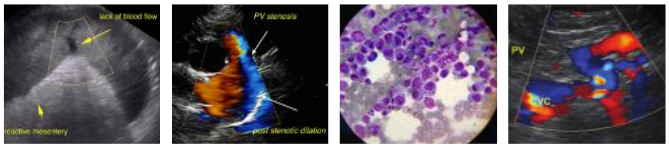

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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