



PATIENT

Riley Sanborn

SPECIES

Canine

BREED

Boxer

SEX

MN

AGE

13 years

WEIGHT

52 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Millburn VH

REFERRING VET

Dr. Turowsky

INVOICE

15247

DATE

5/18/22

PRESENTING CLINICAL SIGNS

Hx of chronic vomiting, more frequent (several times per week). Also, PU/PD per owner. Elevated liver enzymes.

Abnormal PE/Chem/CBC/UA Results: ALT 153, ALP 946 UA: 6-10 RBCs SG: 1.018

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra 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.

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 to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 6.0 cm in length. The right kidney measured 6.3 cm in length.

Adrenal Glands

The left adrenal gland was normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland exhibited focal nonspecific nondisruptive hypoechoic nodules in the caudal pole. An example of a left adrenal nodule measured 0.63 cm in diameter. The overall left adrenal gland measured 4.1 cm length x 0.83 cm in width at the caudal pole.

The right adrenal gland was normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The right adrenal gland measured 3.1 cm x 0.74 cm.

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 exhibited subjective mild enlargement. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. Subtle hypoechoic intraparenchymal nodules, likely consistent with areas of nodular to regenerative hyperplasia or hematopoiesis. An example measured 1.5 cm in diameter. The hepatic and portal vasculature were normal in appearance without signs of congestion.

The gallbladder was non-distended. The gallbladder walls were sonographically normal without evidence of inflammatory criteria. Primarily anechoic content was present in the gallbladder with mild nonorganized, nonmineralized debris/mucus. The cystic biliary duct and common bile duct exhibited



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| PATIENT | generalized distention, extending caudally to the level of the duodenal papilla. Common bile duct dilation was variable, measuring up to 1.9 cm in diameter. Anechoic content was present primarily in the dilated common bile duct with areas of probable congealed non-shadowing mucus. An example of area of congealed mucus measured 2.1 cm in diameter. Suspected non-shadowing mucus at the level of the duodenal papilla was present. The duodenal papilla was distinctly visualized with potential for mild prominent size yet without evidence of overt or significant pathology, measuring 0.7 cm in diameter. |
| Riley Sanborn | |
| SPECIES | |
| Canine | |
| BREED | <i>Gastrointestinal</i> |
| Boxer | 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. |
| SEX | 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. |
| MN | |
| AGE | Normal visible colon wall layers were present with apparent formed feces in lumen. |
| 13 years | <i>Pancreas</i> |
| WEIGHT | 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. |
| 52 lbs. | |
| INTERPRETED BY | <i>Free Abdomen</i> |
| R. McKenzie Daniel, DVM, DABVP (Canine and Feline) | No overt lymphadenopathy or peritoneal effusion was present. |
| IMAGING PERFORMED BY | ULTRASONOGRAPHIC FINDINGS |
| Jessica Miller | <ul style="list-style-type: none"> • Chronic hepatopathy, exhibiting parenchymal remodeling • Nondistended gallbladder with mild luminal debris/mucus • Generalized variable cystic biliary and common bile duct dilation to the level of the overtly normal yet potential mildly prominent duodenal papilla • Mild nodular left adrenal gland- nonspecific • Bilateral chronic renal changes |
| HOSPITAL NAME | INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS |
| Millburn VH | The overall liver, although nonspecific, is consistent with chronic benign hepatopathy with parenchymal remodeling and suspected areas of subtle nodular to regenerative hyperplasia or hematopoiesis. Chronic vacuolar hepatopathy, cholestasis, inflammatory/immune mediated disease with hepatic neoplasia considered a less likely differential diagnosis possible. Given the lack of reported elevated total bilirubin levels or clinical icterus, the generalized distended common bile duct is of unclear clinical significance. Potentially, this may indicate nonobstructive age-related chronic common bile duct dilation, potentially owing to current or past episodes of cholangitis which at times may cause low-grade lethargy, anorexia and potential vomiting. However, given the degree of dilation, the possibility of emerging post-hepatic obstruction at the level of the duodenal papilla cannot be definitively excluded. |
| REFERRING VET | |
| Dr. Turowsky | |
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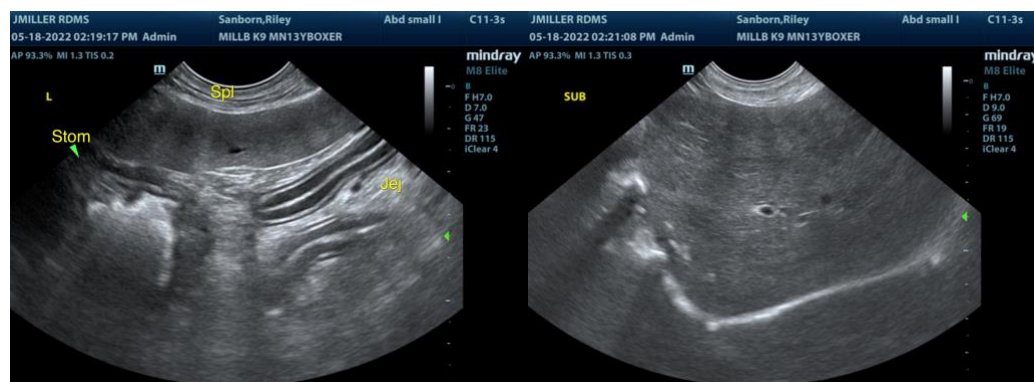
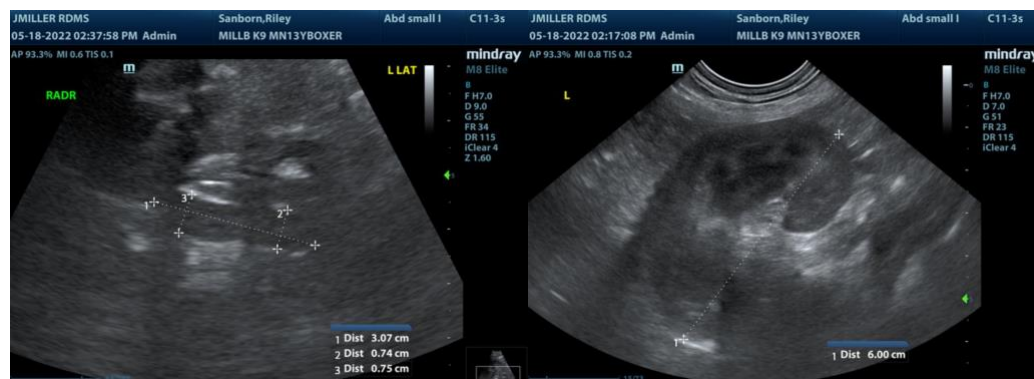
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Hepatosupportive medications, including Denamarin and ursodiol with close monitoring for evidence of progressive signs of cholestasis, as well as sonographic monitoring of the common bile duct would be reasonable. Potential surgical intervention may be indicated if progressive cholestasis and/or icterus are noted. Full adrenal work up could be considered in this patient if clinical signs consistent with adrenal hyperfunction are present. As needed gastrointestinal supportive care suggested. Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.





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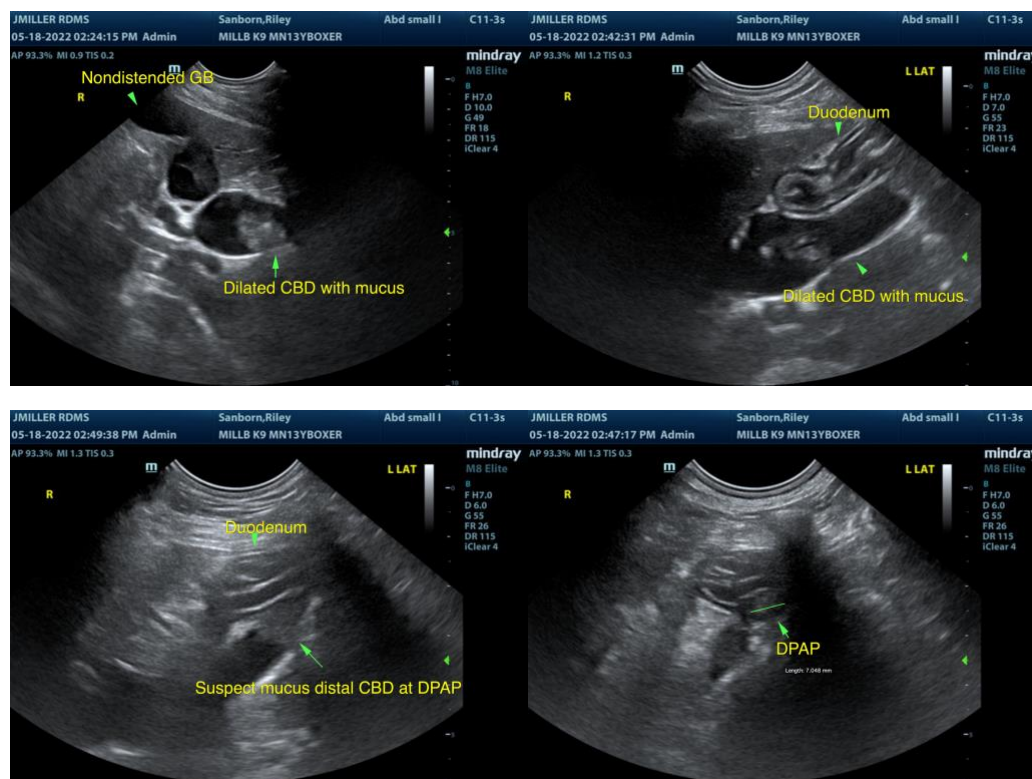
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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