



**PATIENT**

Rueger Dauterman

**SPECIES**

Canine

**BREED**

American Fox Hound

**SEX**

MN

**AGE**

8 years

**WEIGHT**

52

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Jenna Walsh, CVT

**HOSPITAL NAME**

Santa Clara AH

**REFERRING VET**

Dr. Elsbree

**INVOICE**

15090

**DATE**

10/5/22

**PRESENTING CLINICAL SIGNS**

P started having diarrhea 6-8wks ago, comes in waves, P will have some normal bowel movements, becoming more frequent, every 3-5 days P will get lethargic and have D not eating as much, then it'll pass and P will have normal energy and eating/drinking wnl. Decreased energy. On exam- he acts rather normal and BAR. Primary Question/Differential to Be Answered in This Exam Significant liver enzyme elevations; concern for liver/gallbladder disease. Is this medical or surgical? Severity? Infectious, inflammatory, neoplastic concerns? Recommendations for next steps and/or treatment.

Abnormal PE/Chem/CBC/UA Results: Fecal: normal cbc: wnl chem: alt- 2882, ast-401, alp-774, ggt-42, bili total-0.5, bili uncon-0.3, bili con-0.2, chol-447, creatinine kinase-223 (all else wnl) urine: sg 1.027, pH 8.5, bili 2+, lipid droplets t4- normal (1.3) leptotiter- neg PT/PTT- normal (9.1, 12)

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited overtly 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. Potential mild cranial location of the bladder within the mid caudal abdomen is possible.

The residual prostate was free of pathology.

The area of the aortic trifurcation was free of pathology.

Both kidneys were normal and subjectively within the abdominal cavity. 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 7.9 cm in length. The right kidney measured 7.2 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 2.1 cm length x 0.59 cm width at the caudal pole. The right adrenal gland exhibited a uniformly hypoechoic parenchyma. Mildly prominent right adrenal caudal pole width based on body weight was noted, not indicative of underlying right adrenal pathology and a potential patient variant or possible mild adenomatous change. The right adrenal gland measured 2.0 cm length x 0.87 cm width at the caudal pole. No evidence of left or right adrenal neoplastic criteria.

**Spleen**

The spleen was visualized within the thoracic cavity and adjacent to the heart. 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



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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/ Gallbladder***

The liver was incompletely visualized with potential live lobes within the caudal thoracic cavity. 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 indistinctly visualized yet also appeared to potentially be in the caudal thoracic cavity without evidence of gallbladder distention containing subjective anechoic content. The common bile duct was not definitively visualized.

***Gastrointestinal***

The stomach was indistinctly visualized yet without obvious evidence of gastric distention with retained ingesta, fluid, or foreign material.

The visualized segments of small intestine exhibited intact wall layering and maintained a 1:3 muscularis / mucosa ratio without evidence of intestinal mechanical / metabolic ileus. Segments of the small intestine were subjectively within the thoracic cavity adjacent to the spleen.

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

***Pancreas***

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.

***Free Abdomen***

No omental masses, lymphadenopathy, or evidence of peritoneal effusion were noted.

**ULTRASONOGRAPHIC FINDINGS**

- Hernia - probable diaphragmatic hernia, potential for peritoneopericardial diaphragmatic hernia
- Benign hepatopathy - vacuolar hepatopathy, inflammatory / immune-mediated disease, or other hepatopathy possible, no evidence of hepatic neoplastic criteria, as well as no evidence of overt post hepatic obstruction
- Overtly normal gastrointestinal tract



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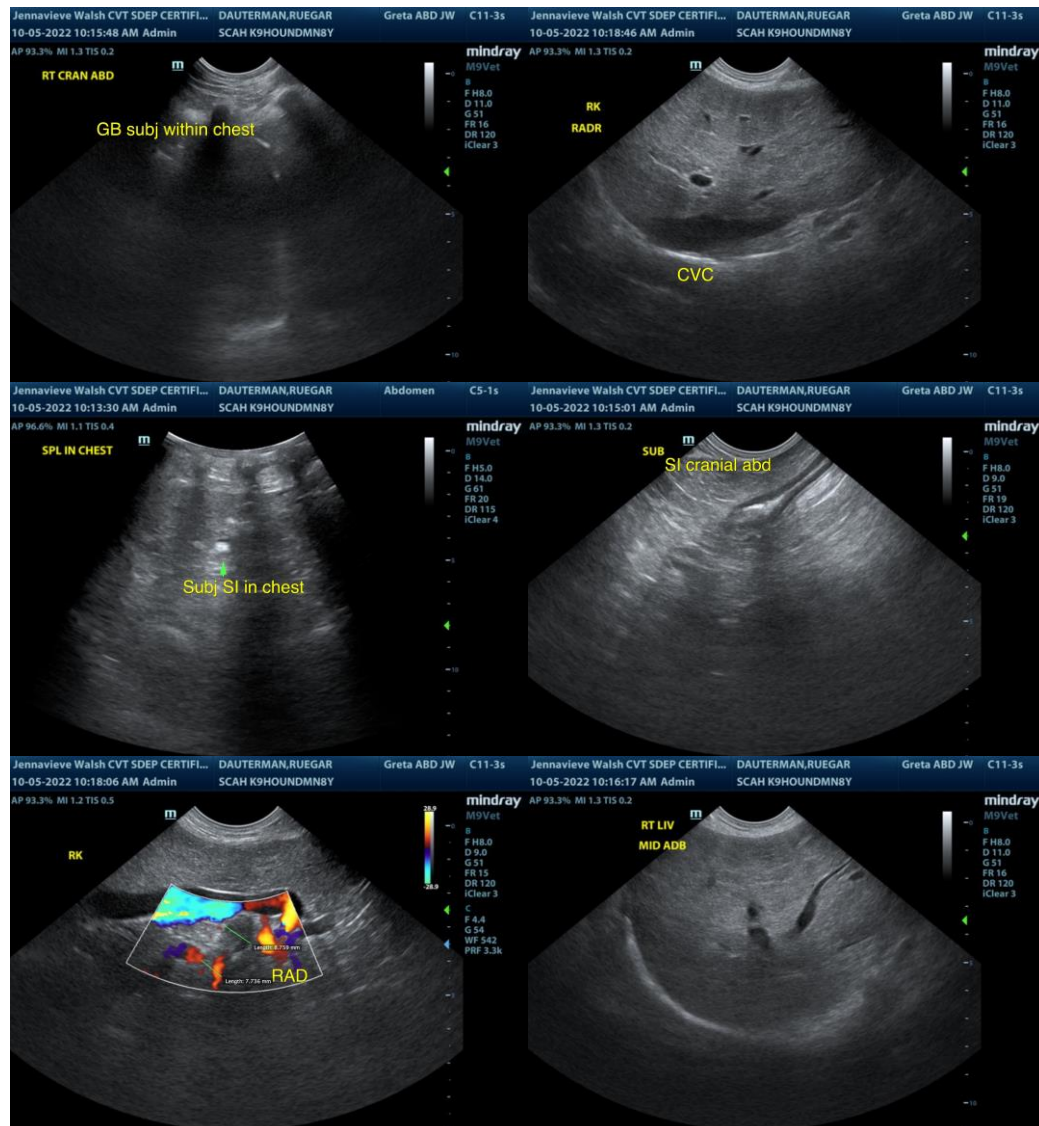
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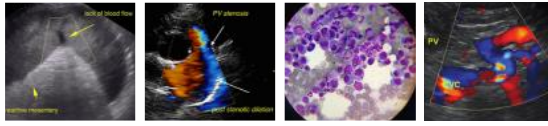
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Thoracoabdominal CT would be ideal for further assessment of the hernia, as well as surgical planning. Assuming normal clotting status, ultrasound-guided hepatic FNA cytology could be considered primarily to assess for or possibly identify inflammatory cell type if present. Empirical hepatosupportive medications including Denamarin and Ursodiol may prove beneficial. As needed GI supportive care, which may include hydrolyzed diet trial, high colony count probiotic, as well as broad spectrum deworming even if fecal testing is negative, i.e., Panacur 50 mg/kg PO SID for 5 consecutive days may prove beneficial in regards to intermittent diarrhea.





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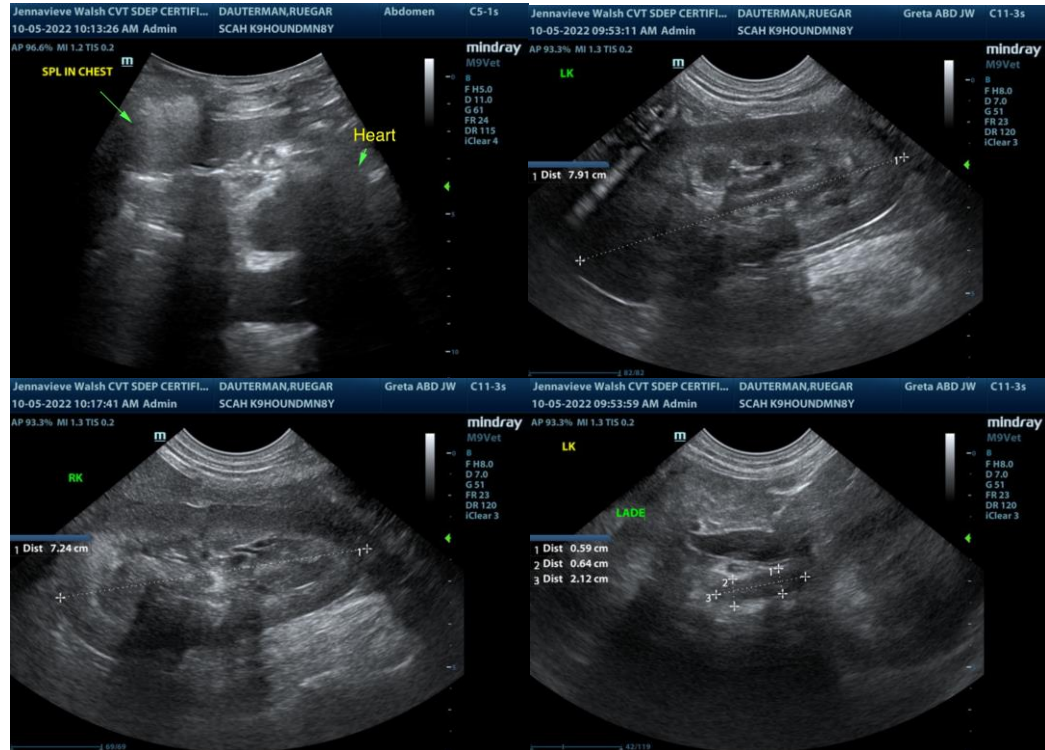
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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