

**PATIENT**

Loki Loving

**SPECIES**

Canine

**BREED**

Great Dane

**SEX**

MN

**AGE**

5 years

**WEIGHT**

136.0

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Dr. Mavis  
McCormick-Rantze

**HOSPITAL NAME**

Lanier AH

**REFERRING VET**

Dr. Mavis  
McCormick-Rantze

**INVOICE**

13751

**DATE**

4/27/22

**PRESENTING CLINICAL SIGNS**

P seems to be doing well at home, eating and drinking well, no weight loss and very active.

Abnormal PE/Chem/CBC/UA Results: Normal PE Doing ultrasound due to elevated liver enzymes  
4/18/22- chem: ALT 356 alk phos 219 9/28/21- ALT 209 alk phos 187

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, and cystourethral junction exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths, sediment, or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

No overt pathology was noted in the area of the residual prostate.

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.

**Adrenal Glands**

Both adrenal glands were indistinctly visualized owing to patient size, yet without overt pathology. The caudal left adrenal gland subjectively measured 0.68 cm width. The caudal right adrenal gland measured subjectively measured 0.80 cm width.

**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.

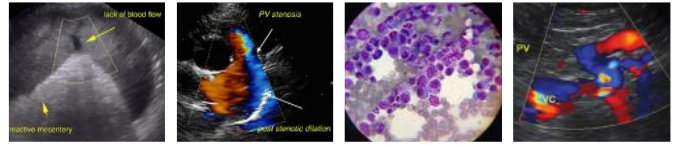
**Liver/ Gallbladder**

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. 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.



**PATIENT**

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

Loki Loving

**Pancreas**

**SPECIES**

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.

Canine

**BREED**

**Free Abdomen**

Great Dane

No overt lymphadenopathy or peritoneal effusion was present.

**SEX**

**ULTRASONOGRAPHIC FINDINGS**

MN

- Nonspecific hepatopathy - subjectively benign

**AGE**

- Sonographically unremarkable gallbladder

5 years

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**WEIGHT**

The overall appearance of the liver was nonspecific yet consistent with benign hepatopathy. Primary consideration for nonspecific hepatitis (viral, bacterial, leptospirosis, toxin, etc.), given the primarily and progressively elevated ALT with potential for concurrent vacuolar hepatic changes and nonclinical hepatic cholestasis, given the ALP elevation. No overt evidence of neoplastic criteria was noted.

136.0

**INTERPRETED BY**

Leptospirosis titers/PCR could be considered if potential exposure, yet may be considered less likely, given the lack of clinical signs in this patient. Ultrasound-guided FNA of the liver is warranted if accessible for screening cytology and potential identification of inflammatory cell type if present. Core surgical hepatic biopsy for histopathology, tissue culture and sensitivity, +/- copper staining or quantification are likely required for a definitive diagnosis.

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Since the patient is nonclinical with an overall normal hepatic presentation, hepatosupportive medications including Denamarin and Ursodiol due to its antioxidant and immunomodulatory effects within the liver, with continued serial monitoring of hepatic enzymes would be reasonable.

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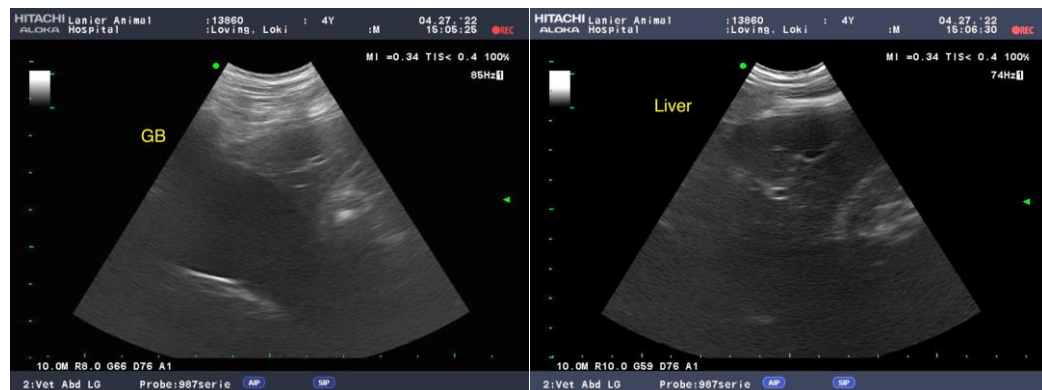
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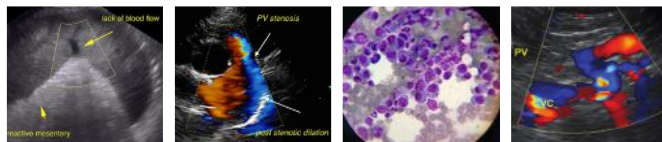
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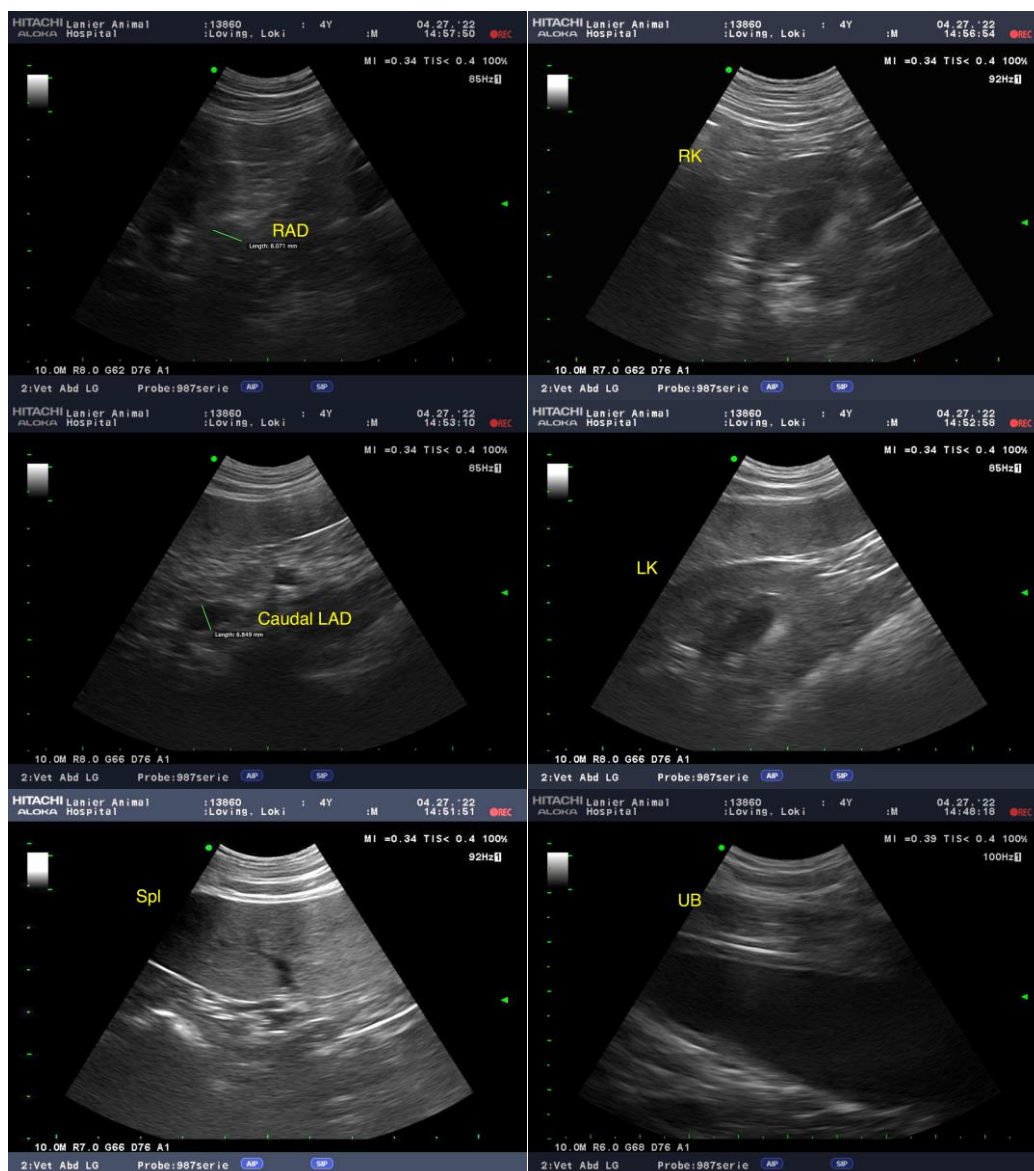
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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