

**PATIENT PRESENTING CLINICAL SIGNS**

**PATIENT** Rosie Goldberg  
**SPECIES** Canine  
**BREED** Labrador Retriever  
**SEX** Female, spayed  
**AGE** 14 Years  
**WEIGHT** 19.3 kg

**History:** Patient has had progressive liver enzyme elevation (ALT and ALP) along with bouts of anorexia, substantial weight loss, and other GI symptoms (diarrhea). First documented in March 2022 (ALT 476, ALP 324, AST 108) and has had progression since. O had elected to hold off on diagnostic imaging at the time, but now that P is in another flare-up (ALT >1000, ALP 981) with more GI symptoms, O has elected to pursue abdominal ultrasound to evaluate liver and GI function. MEDS/TX Metronidazole 250mg #17 1 PO BID until gone disp Provable paste + caps - use according to label directions Rx's filled by TF, verified by KM Disp GI Biome kibble and W/D canned food

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder and visible portion of the pelvic urethra are normal for the degree of luminal distension. The urine is anechoic with no evidence of debris. Cystic calculi and discrete masses are not observed. The region of the trigone is normal.

The left kidney is normal size (6.71 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis.

The right kidney is normal size (xxx cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis.

**Adrenal Glands**

The left adrenal gland is mildly enlarged (0.92 cm at cranial pole) (0.88 cm at caudal pole); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is normal size (0.75 cm at cranial pole) (0.81 cm at caudal pole) (2.51 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**Spleen**

The spleen is normal in size (1.89 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

**Liver**

The liver is normal to prominent in size with slightly irregular peripheral contours. The parenchyma is hypoechoic relative to the spleen with a mottled and nodular type appearance. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is mildly thickened (up to 0.33 cm) and hyperechoic. A small to moderate amount of aggregated, echogenic, partially dependent debris/sludge is observed within the lumen. The cystic and common bile ducts are normal/not seen.

**Gastrointestinal**

**INTERPRETED BY**

Andrea Nicastro, DVM,  
Diplomate ACVIM  
(Small Animal Internal  
Medicine)

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques, RVT

**HOSPITAL NAME**

Incline VH

**REFERRING VET**

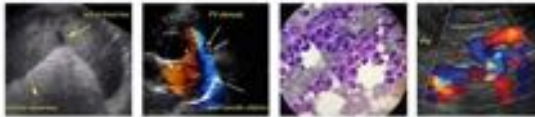
Dr. Moger

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**DATE**

6/20/23



**PATIENT**

Rosie Goldberg

The gastric lumen is not distended. The gastric wall is normal in thickness with a normal layering pattern. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern. There is evidence of mucosal striations in some segments. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

**SPECIES**

Canine

***Pancreas***

The pancreas is normal in size with normal peripheral contours. The pancreatic duct is normal. The base and limbs of the pancreas are isoechoic to surrounding omental fat. No focal lesions are observed. There is no evidence of peripancreatic inflammation or effusion.

**BREED**

Labrador Retriever

***Free Abdomen***

The mesentery in the mid-abdominal region is mildly hyperechoic. A small amount of free fluid is visualized. The abdominal lymph nodes are normal/not visible.

**SEX**

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**AGE**

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**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings:**

- Diffuse hepatopathy. Differentials include chronic inflammatory disease (i.e., chronic hepatitis, bacterial cholangiohepatitis), hepatotoxicosis (i.e., copper), fibrosis/cirrhosis, infiltrative neoplasia (i.e., round cell tumor), other hepatopathy.
- The gallbladder wall changes are suggestive of cholecystitis.
- Mild peritonitis, possibly secondary to underlying hepatic disease.

**WEIGHT**

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**Secondary Findings:**

- Mild left adrenomegaly
- The small intestinal mucosal striations are most consistent with lymphangiectasia. However, correlation with the patient's clinical history is recommended.

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Diplomate ACVIM  
(*Small Animal Internal  
Medicine*)

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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- A fine needle aspirate of the liver is recommended to evaluate for round cell neoplasia. Clotting times should be assessed prior to tissue sampling. A 25-gauge needle should be used for the procedure. If cytology results are inconclusive, and/or do not reveal neoplasia, laparoscopic or surgical liver biopsies should be obtained along with aerobic and anaerobic bile cultures. Additional hepatic tissue samples should also be obtained for hepatic copper quantitation. If the patient has a history of gastrointestinal signs, also consider obtaining GI biopsies and performing a Texas GI panel including serum cobalamin, folate, TLI and PLI. Three-view thoracic radiographs are recommended prior to any anesthetic event.

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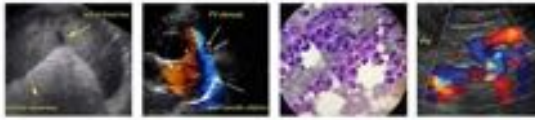
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- Leptospirosis testing (i.e., blood and urine PCR, serology) can also be considered. However, given the sonographic appearance of the liver, a chronic hepatopathy is suspected. Therefore, Leptospirosis testing may be of low yield.
- While awaiting test results, hepatic antioxidants and other supportive measures are recommended.

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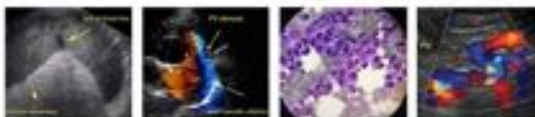
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I



**PATIENT**

can be of any further assistance, please contact me.

Rosie Goldberg

Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)  
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