



**PATIENT**

Sisu Rajamaki

**SPECIES**

Canine

**BREED**

Shepherd x

**SEX**

Neutered Male

**AGE**

13 Years

**WEIGHT**

35 kg

**INTERPRETED BY**

Kathleen Sennello DVM,  
 MS, Diplomate ACVIM  
 (Small Animal Internal  
 Medicine)

**IMAGING PERFORMED BY**

Amanda Stewart

**HOSPITAL NAME**

Main Street Animal  
 Hospital

**REFERRING VET**

Dr. Murphy

**INVOICE**

75063

**DATE**

5/12/26

**PRESENTING CLINICAL SIGNS**

Drinking a bit more - not pu/pd, otherwise NAF on most recent exam, increase in hepatic values on most recent bloodwork. Current Medications: Glucosamine daily

Abnormal PE/Chem/CBC/UA Results: hgb 15 (146-217) MCH 21.6 (22.1-26.7) MCHC 308.5 (323.380) retic Hgb 23.1 (23.8-28.3) K 5.5 (4.0-5.4) Na:K ratio 27 (28-37) alt 246 (18-121) alp 1242 (5-160) bilirubin total 5.9 (0.0-5.2) Radiographic Findings not done Primary Question to Be Answered in This Exam cause for increased hepatic values

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (7.34 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (6.4 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is large, measuring 0.62 cm at the cranial pole and 1.1 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is large, measuring 1.76 cm at the cranial pole and 0.93 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**Spleen**

The spleen is subjectively normal in size (2.7 cm), echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

**Liver**

The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the



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vasculature and biliary tract appear normal. There is a mixed echogenicity, slightly hypoechoic mass effect in the mid caudal aspect of the liver measuring 3.35 cm x 3.51 cm.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and likely incidental at this time. The cystic and common bile ducts are normal/not visible.

**Gastrointestinal**

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. The region of the pylorus appears somewhat prominent with wall measuring at 0.98 cm with intact wall layering. No evidence of an obstruction is present.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Jejunum wall measures 0.39 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

**Pancreas**

The area of the pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

**Free Abdomen**

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

**ULTRASONOGRAPHIC FINDINGS**

- Bilateral adrenomegaly – The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended.
- Heterogeneous liver with a mixed echogenicity focal mass effect – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The mass lesion could represent a benign lesion (adenoma, regenerative nodule, etc.) or a neoplastic lesion (carcinoma, sarcoma, other).
- Subjectively thickened pylorus with intact wall layering – The significance of this is uncertain. There is no evidence of an obstruction. Findings could be consistent with image artifact, mild gastritis, etc. A neoplastic process is thought less likely.



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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The liver is large and heterogeneous with a mixed echogenicity mass effect. A primary hepatopathy is suspected. Consider the following for further evaluation:

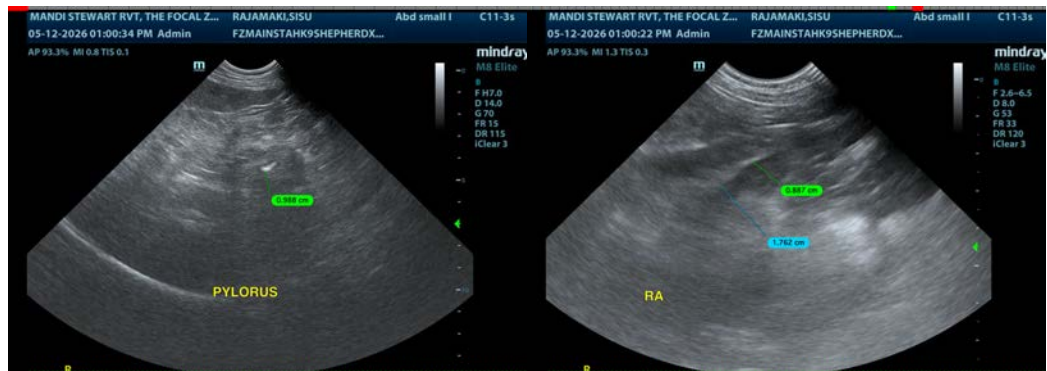
- Recommend fine needle aspirate of the liver (provided coagulation parameters are normal). Additionally, a fine needle aspirate of the mass effect should be considered if a safe window for sampling is available.
- If clinically appropriate, you could consider testing for Leptospirosis.
- Once samples are obtained, you could consider empirical treatment for acute liver injury/cholangiohepatitis with a course of Ursodiol, Denamarin, and antibiotics.

If liver enzyme elevations are persistent and cytology is not diagnostic, ultimately biopsies of the liver with samples for histopathology, culture and copper levels would likely be warranted. If surgical removal of the mass effect would be considered, then ideally a contrast CT scan should be performed to better determine the extent and attachment of the lesion and to look for any smaller metastatic lesions.

Both adrenals are somewhat large. You could consider adrenal function testing, although keep in mind that significant illness can cause false positives.

On some views the pylorus appears somewhat thickened. The significance of this is uncertain. Recommend continued monitoring for upper GI signs such as vomiting, etc. Reevaluation of the pylorus could be considered in the future, looking for progression of the thickened appearance. If surgery or a CT scan is performed to further evaluate the liver, the pyloric region should be evaluated as well.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement (disregard if this has already been done).





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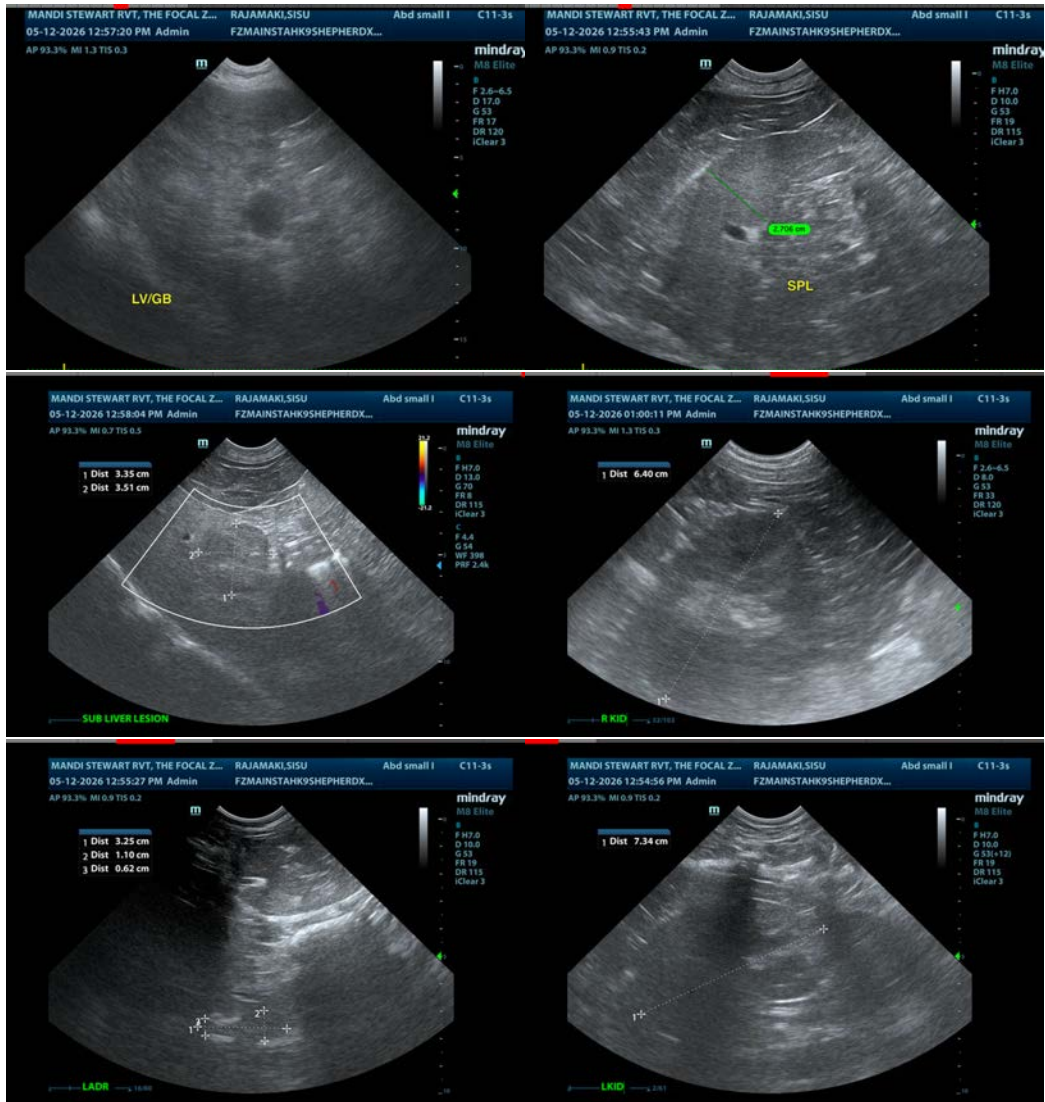
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

info@sonopath.com