



PATIENT

Sophie Moran

SPECIES

Canine

BREED

Shepherd X

SEX

Spayed Female

AGE

11.5 Years

WEIGHT

59.2 Pounds

INTERPRETED BY

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

**IMAGING
PERFORMED BY**

Kelly Vazquez

HOSPITAL NAME

Ramapo Valley AH

REFERRING VET

Dr. Katara

INVOICE

36185

DATE

3/15/22

PRESENTING CLINICAL SIGNS

Markedly elevated liver enzymes (also history of hypothyroid and megaesophagus). Current meds: Ursodial, Denamarin, Levothyroxine.

Abnormal PE/Chem/CBC/UA Results: CBC/Chem: AST 392, ALT 1259, ALP 1190, GGT 13, BUN 32, chol. 805. U/A: WBC 11-20, protein 1+, epithelia 4-10, 1.047.

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 left kidney has a normal shape and size (6.53 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 (7.3 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 normal in size measuring 0.53 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 region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. No evidence of a mass effect.

Spleen

The spleen is subjectively normal in size. The spleen echotexture is heterogenous and mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is an ill-defined hypoechoic nodule visualized measuring 0.70 cm x 0.34 cm within the splenic parenchyma.

Liver

The liver is large in size, hypoechoic, and irregular in shape. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There are numerous hypoechoic nodules visualized within the hepatic parenchyma, the largest of these measuring 1.97 cm x 3.33 cm. Another measures 2.51 cm x 2.52 cm. A smaller lesion measures 0.84 cm x 1.22 cm. Additionally, the liver appears somewhat irregular in echotexture and rounded, creating a large mass effect in the area adjacent to the gallbladder. This abnormal area of liver contains one of the larger liver nodules described. This could be consistent with an atypical area of liver lobe, or a larger hepatic mass effect.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.



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Gastrointestinal

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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. No masses or focal lesions were observed.

SPECIES

Canine

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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.)

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Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. 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

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The pancreas is prominent and hypoechoic as compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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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.

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ULTRASONOGRAPHIC FINDINGS

- Large, hypoechoic, irregular liver with hypoechoic nodules and possible larger 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 focal lesions described could be consistent with benign or neoplastic change.
- Mottled spleen with hypoechoic nodule – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Hypoechoic, prominent pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are numerous focal lesions visualized within the liver. Unfortunately, these changes could represent either benign or neoplastic change. Consider fine needle aspirates of the liver in several areas, provided coagulation parameters are normal. Additionally, you could consider a contrast CT scan to obtain better resolution and a more global view of the liver to try and discern if a surgical lesion is present.

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Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

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Additionally, the spleen is mottled with a hypoechoic nodule. A fine needle aspirate of the spleen should be considered at the same time as the liver.

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- Recommend liver function testing.
- Per the history, Leptospirosis testing is pending.
- Consider starting Ursodiol and Denamarin.
- If cytology and advanced imaging are unable to better evaluate the liver, then consider obtaining biopsies for histopathology, culture and copper levels.

BREED

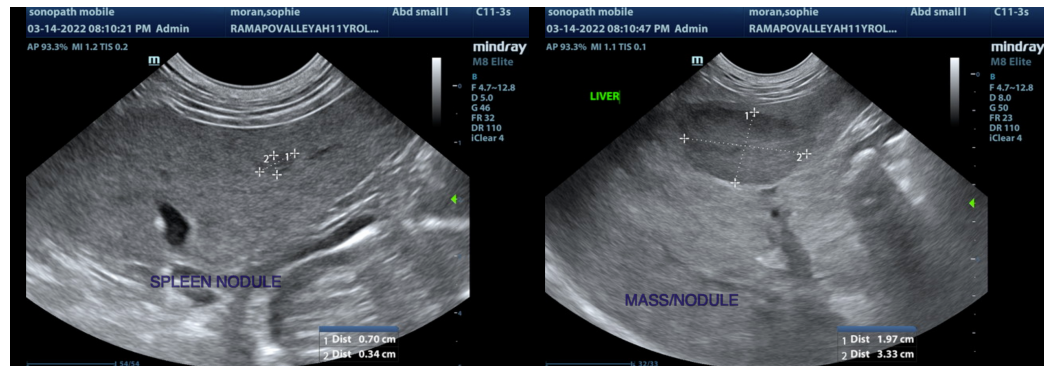
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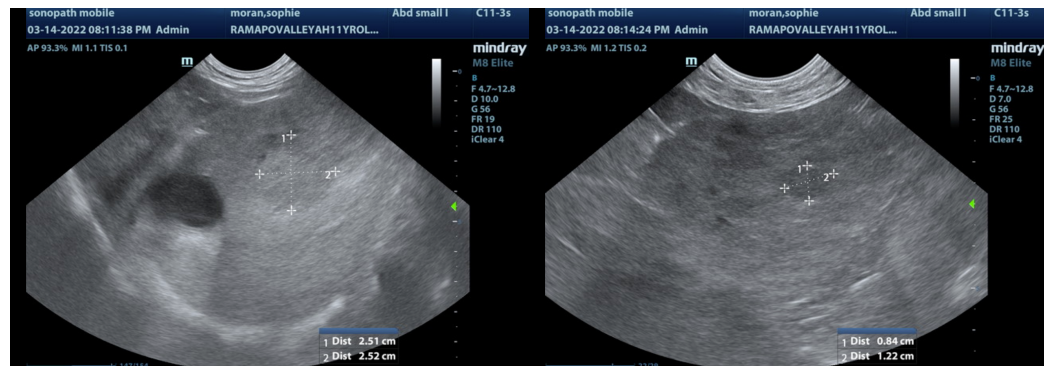


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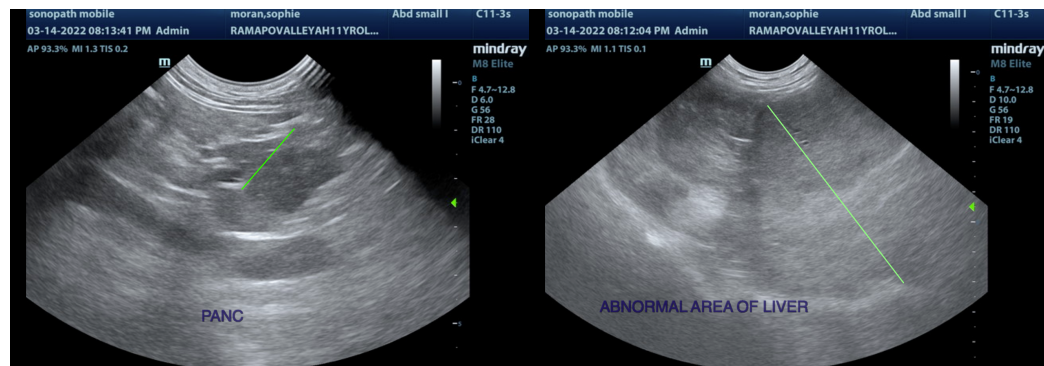


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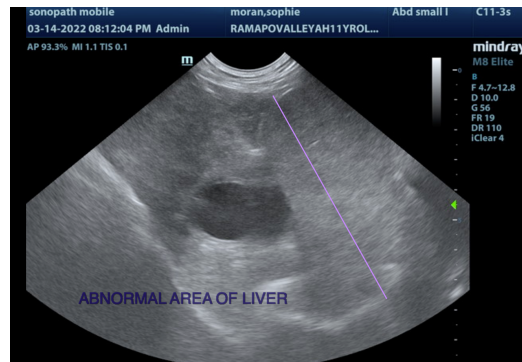
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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