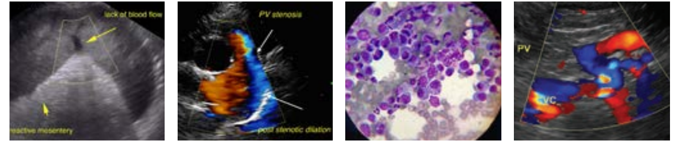


SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT

Mia Hamm Mann

SPECIES

Canine

BREED

Terrier X

SEX

Female

AGE

1.25 Years

WEIGHT

46.2 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Emily Kirk

HOSPITAL NAME

Shiloh Animal Hospital

REFERRING VET

Dr. Audra Alley

INVOICE

42497

DATE

11/2/22

PRESENTING CLINICAL SIGNS

Presented to another hospital for chronic diarrhea. Was initially doing better on proplan salmon/rice, but did not improve much with metronidazole. Fecal nps. Lab work performed 10/29 showed ALT 641 H (18-121), AST 217 H (16-55), bilirubin 0.4 (0.0-0.3). BUN and creat normal (13 and 1.4 respectively). USG 1.053. Patient has progressed from decreased appetite to anorexia. Physical exam is overall unremarkable with no fever.

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 (5.39 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 (5.04 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 normal in size measuring 0.35 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, 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.

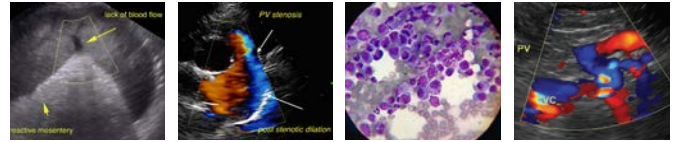
Liver

The liver is subjectively normal in size, and hypoechoic with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. 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. No masses or focal lesions were observed.



PATIENT
Mia Hamm Mann

SPECIES
Canine

BREED
Terrier X

SEX
Female

AGE
1.25 Years

WEIGHT
46.2 Pounds

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

IMAGING PERFORMED BY
Emily Kirk

HOSPITAL NAME
Shiloh Animal Hospital

REFERRING VET
Dr. Audra Alley

INVOICE
42497

DATE
11/2/22

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

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

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

- Hypoechoic, heterogeneous liver – 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.

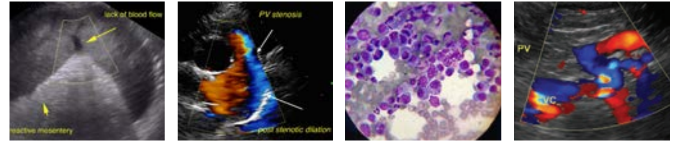
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No focal lesions are visualized associated with the liver to explain the elevation in ALT reported. The biliary tract appears relatively normal, so the changes are most consistent with a primary hepatopathy. Consider the following evaluation:

The ultrasonographic changes in the liver were relatively mild. Unfortunately, the sonographic changes do not always reflect the severity or cause of the hepatopathy. The scan today supports a primary hepatopathy as no severe biliary changes were observed.

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc...
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history
- If not already done, consider pre and post prandial bile acids to evaluate liver function
- Consider Fine needle aspirate if round cell neoplasia is on your differentia list (25 g needle, normal coags)
- If no response to supportive care (Denamarin, fluids, antibiotics, +/- ursodiol etc.) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

If the bile acids are significantly elevated (>80), then consider the possibility of a portosystemic shunt, although none was seen here, and the liver appears normal in size with adequate to increased portal markings. Nonetheless, a contrast CT scan may be necessary to definitively rule a shunt out in a young dog like this. Additionally, a liver biopsy may be necessary to diagnose many types of liver disease.



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Mia Hamm Mann

SPECIES

Canine

BREED

Terrier X

SEX

Female

AGE

1.25 Years

WEIGHT

46.2 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Emily Kirk

HOSPITAL NAME

Shiloh Animal Hospital

REFERRING VET

Dr. Audra Alley

INVOICE

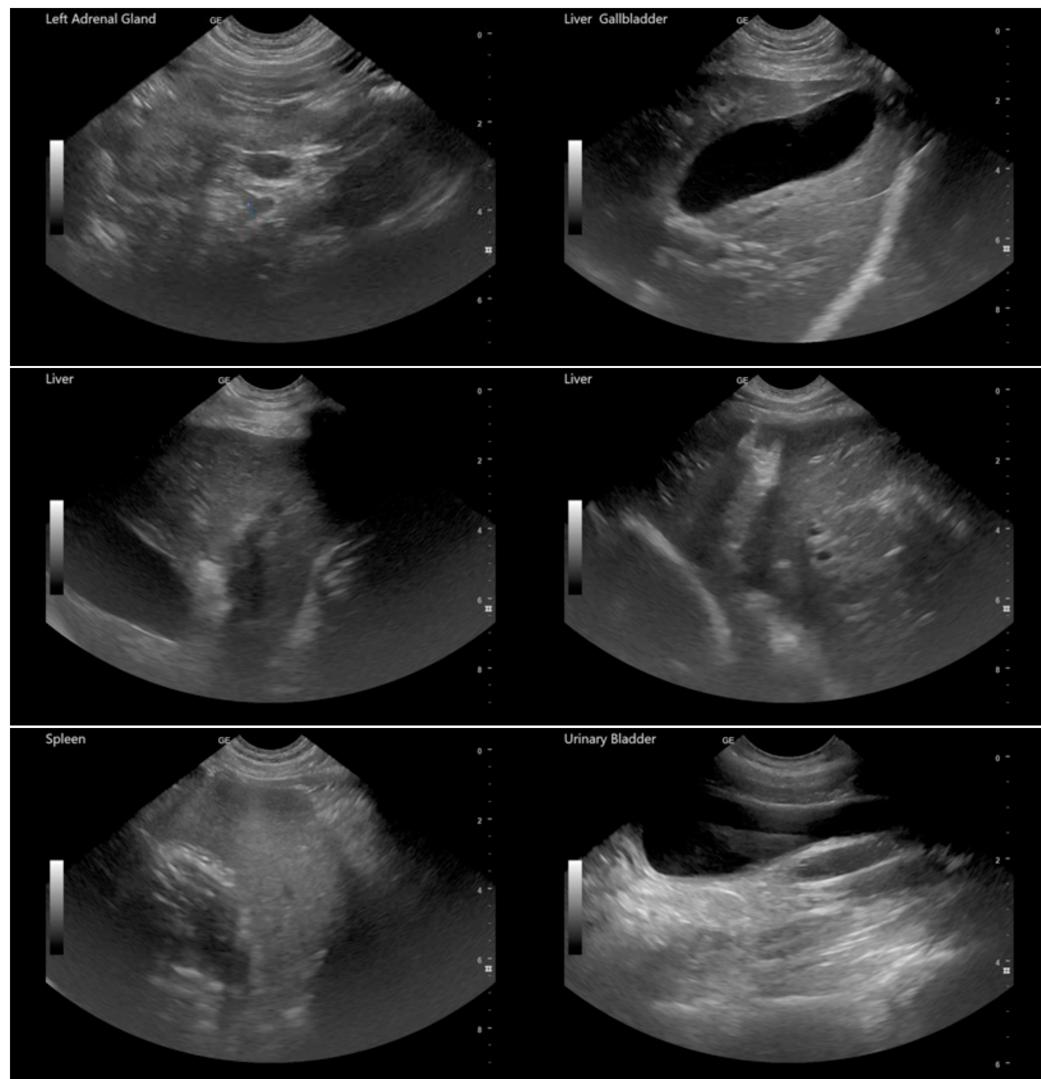
42497

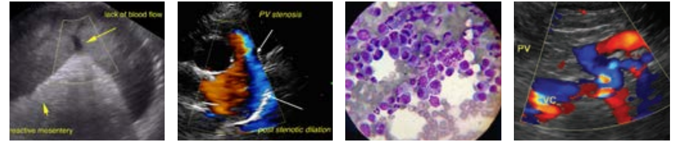
DATE

11/2/22

No changes were visualized to explain the diarrhea reported. This could be secondary to liver disease or may be due to concurrent GI issues. Consider such differentials as food allergy/dietary intolerance, GI parasitism, pancreatitis, dysbiosis, recurrent dietary indiscretion, IBD and less likely neoplasia, etc….

- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks). You could consider a different hypoallergenic diet, as sometimes individuals do better with different diets.
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc.. to further evaluate for pancreatic/small intestinal disease.
- Recommend chronic probiotic therapy.
- If symptoms persist, you could consider obtaining GI biopsies.
- Consider a trial with added fiber to the diet. This can make some dogs with diarrhea better but others worse.





PATIENT

Mia Hamm Mann

SPECIES

Canine

BREED

Terrier X

SEX

Female

AGE

1.25 Years

WEIGHT

46.2 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Emily Kirk

HOSPITAL NAME

Shiloh Animal Hospital

REFERRING VET

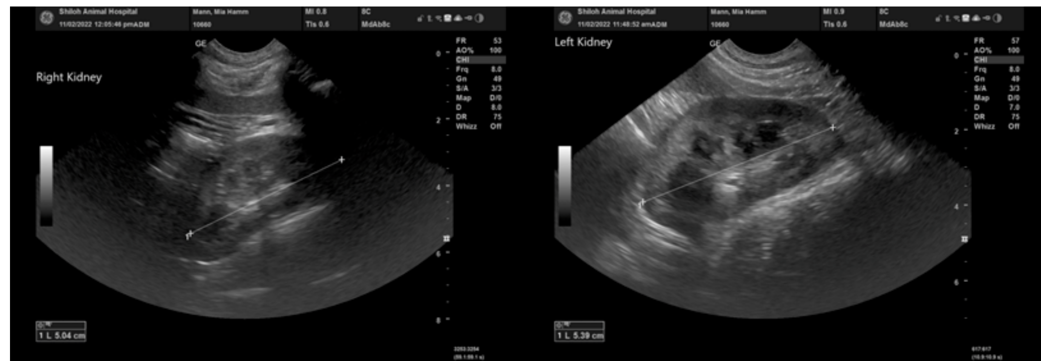
Dr. Audra Alley

INVOICE

42497

DATE

11/2/22



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)

kathleen.sennello@sonopath.com