SonoPath
Clinical Sonography & Telecytology
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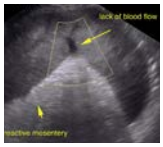
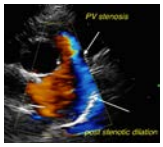
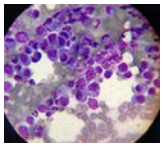
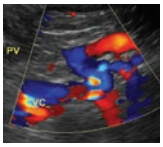

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Lizzie Halper

SPECIES
Canine

BREED
Havanese

SEX
Spayed Female

AGE
13 Years 5 Months

WEIGHT
19.1 Pounds

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

IMAGING PERFORMED BY
Dr. Gillian Striano-Kaplan

HOSPITAL NAME
Ramsey Vet Hospital

REFERRING VET
Dr. Gillian Striano-Kaplan

INVOICE
44758

DATE
8/17/23

PRESENTING CLINICAL SIGNS

Lethargy, decreased appetite, weight loss.

Abnormal PE/Chem/CBC/UA Results: RBC 4.94 HCT 35.9 HG 11.9 Mono 1.404 Eos 0 nuc RBC 6 PLT 90 Polychromasia, Anisocytosis Slightly toxic neutrophils Dohl bodies Idexx SDMA 24 TP 5 ALB 2.3 ALT 588 AST 152 ALP 1841 GGT 21 Tbil 0.5 unconj 0.3 conj 0.2. Lip 282 USG 1.014

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 (6.05 cm). Overall echogenicity is slightly hyperechoic with poor 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 (5.67 cm). Overall echogenicity is slightly hyperechoic with poor 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 region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect is visualized.

The right adrenal gland is normal in size measuring 0.49 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 borderline large. 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. Two hypoechoic nodules are visualized within the parenchyma, one measuring 1.05 cm and one measuring 0.75 cm in diameter.

Liver

The liver is large in size, and normal in echogenicity with rounded 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 gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

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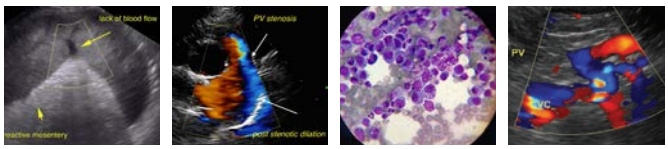

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Gastrointestinal

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.

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 0.34 cm. Visualized peristalsis appears appropriate. Occasionally, there are some focal areas of small bowel that appear slightly corrugated. No evidence of an obstructive process is noted.

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 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

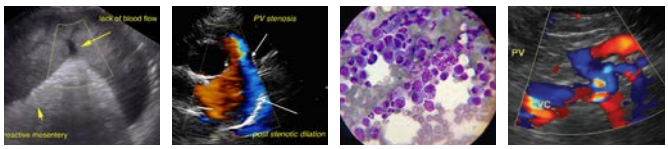
Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

Other

A brief view of the heart was submitted. No significant pericardial effusion was seen.

ULTRASONOGRAPHIC FINDINGS

- Decreased corticomedullary distinction in both kidneys – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.
- Mildly mottled, borderline large spleen with two subtle hypoechoic nodules – Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Large, 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.
- Moderate gallbladder debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.



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- Occasional prominent/corrugated areas of small bowel – The significance of this is unclear. This could represent mild focal enteritis. No loss of layering is noted, and no evidence of an obstructive process.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

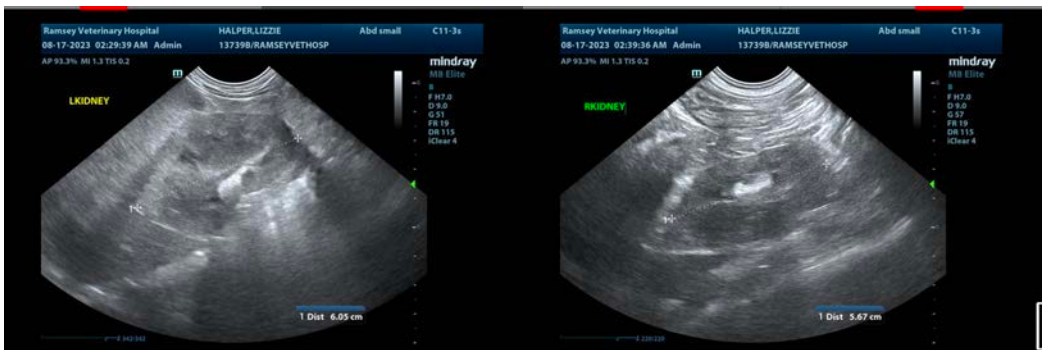
No focal liver lesions are observed, but the liver does appear somewhat heterogeneous and large with rounded margins. The gallbladder has some moderate debris, but no significant wall thickening or surrounding inflammation. The bile duct does not appear significantly dilated. These findings would be most consistent with a primary hepatopathy. Consider the following for further evaluation:

- 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.

The albumin is low. If the liver function test is normal, then consider further evaluation, looking for a source other than the liver. Consider a urine protein to creatinine ratio, looking for evidence of significant proteinuria. Additionally, consider a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate, looking for evidence of underlying gastrointestinal disease that could be suggestive of a protein losing enteropathy. Although there is mild corrugation of the small bowel, there is no diffuse change consistent with a primary enteropathy noted.

The spleen appears slightly mottled with some ill-defined hypoechoic nodules. Additionally consider a fine needle aspirate of the spleen.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.



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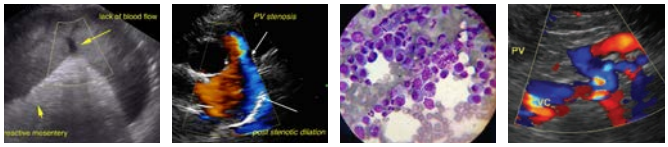

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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