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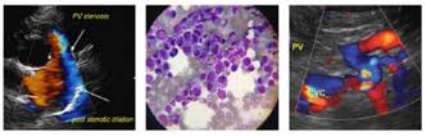

SonoPath
Clinical Sonography & Telecytology
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PATIENT

Kylie Ruona

SPECIES

Canine

BREED

Cavalier King Charles Spaniel

SEX

Spayed Female

AGE

5 Years

WEIGHT

12.4 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Amy Mayhew, LVT

HOSPITAL NAME

SVS Imaging MI

REFERRING VET

Union Lake VH

INVOICE

40556

DATE

8/17/22

PRESENTING CLINICAL SIGNS

Weight loss, nausea, vomiting, diarrhea
Abnormal PE/Chem/CBC/UA Results: Please see attached labs. Resting cortisol 1.4

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 (5.03 cm) with mild pyelectasia at 0.28 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.8 cm) with mild pyelectasia at 0.30 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.42 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 normal in size measuring 0.48 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, 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 borderline small in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is mildly 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 primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

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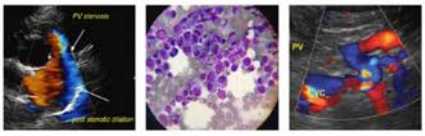

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The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall thickness is moderately increased. Bowel loops follow a typical curvilinear path. Some areas have reduced detail of wall layering. Jejunum wall measured 0.42 cm. Duodenum wall measured 0.59 cm. Some areas of small intestine appear corrugated and some areas exhibit mucosal speckling. 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

- Mild bilateral renal pyelectasia – Pyelectasia of the left/right kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Moderate ingesta within the gastric lumen – Correlate with feeding history. If the patient was adequately fasted, consider such differentials as delayed gastric emptying or partial outflow tract obstruction (none observed).
- Subjectively thickened small intestine with areas of corrugation and mucosal speckling – Bright mucosal speckling has been proposed to represent dilated lacteals or focal accumulation of mucus, cellular debris etc.. in the mucosal crypts of the small intestine. The corrugated areas are most consistent with areas of irritation/enteritis.
- Borderline small, mildly 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 mass lesions are observed and there is no evidence of a portosystemic shunt visualized on today's scan. There are some sections of small intestine that appear somewhat bunched or corrugated, which can be associated with irritation/enteritis. Additionally, there is some mild thickening and mucosal speckling, which could be consistent with underlying GI disease. There is a low albumin level reported. Recommend a urinalysis and urine protein to creatinine ratio to rule out protein loss from the kidneys, and a liver function test to further evaluate the liver to determine if it is functioning properly and if it could be a source for the low albumin levels.

If the liver and kidneys are normal, then I would suspect the abnormalities described above would be most consistent with a protein losing enteropathy. There are many causes for possible GI protein loss. The most common would be IBD, lymphangiectasia or intestinal neoplasia. It is important to differentiate between these processes, as they carry a very different prognosis and treatment plan.

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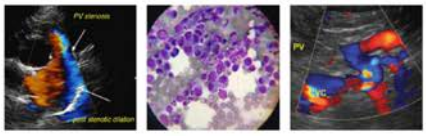

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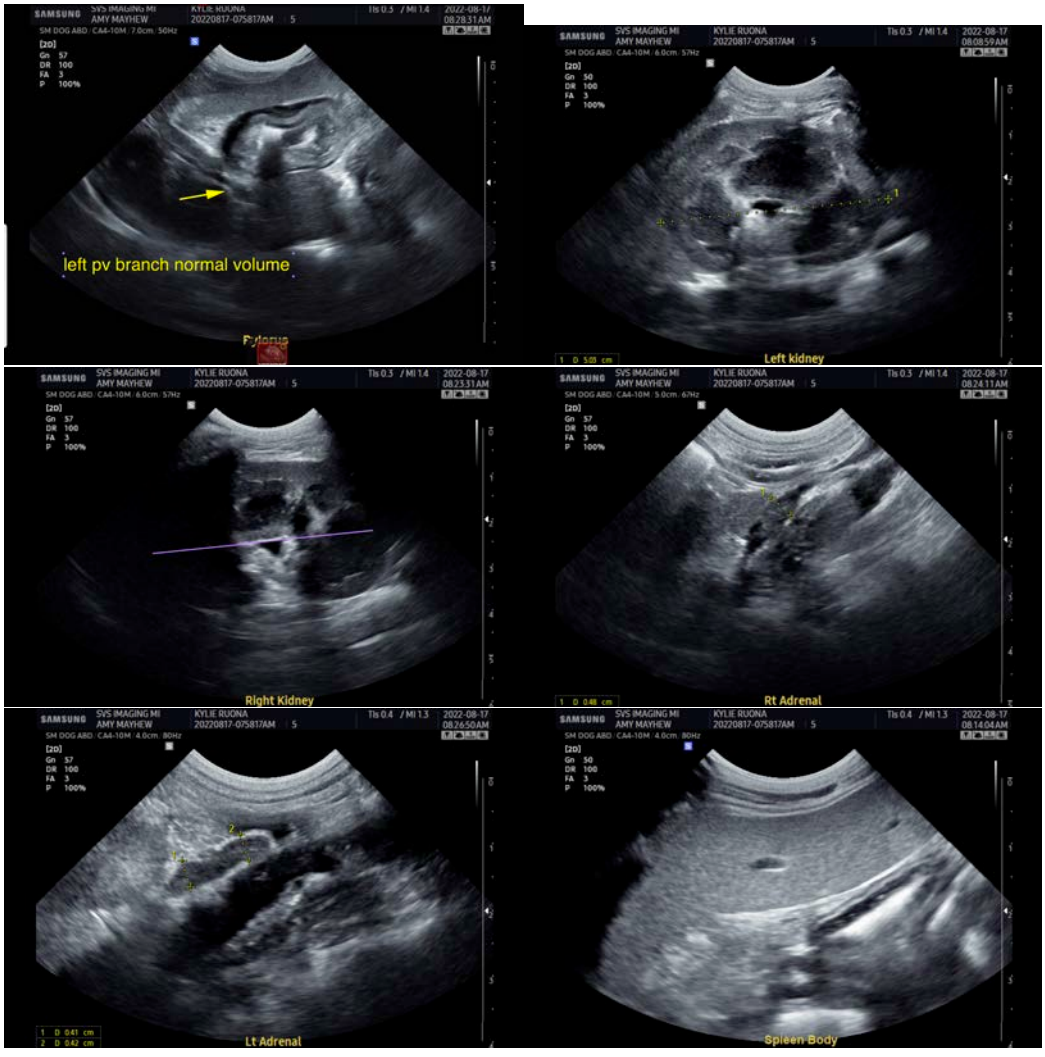
Consider endoscopic biopsies to further evaluate. While awaiting this, you could consider the following:

- Novel protein/hydrolyzed protein prescription diet.
- GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to further evaluate the pancreas and small intestine.
- Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.
- Screening for and treatment for GI parasites.
- Chronic probiotic therapy.



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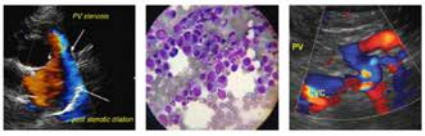

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

kathleen.sennello@sonopath.com