

**PATIENT**

Tank Rowley

SPECIES

Canine

BREED

Puggle

SEX

Neutered Male

AGE

5 Years

WEIGHT

15.6 kg

INTERPRETED BYKathleen Sennello DVM,
MS, Diplomate ACVIM
(Small Animal Internal
Medicine)**IMAGING
PERFORMED BY**

Tom McNeill

HOSPITAL NAME

SVS Imaging CT

REFERRING VETMadison VS -
Dr. Thomas**INVOICE**

38494

DATE

6/8/22

PRESENTING CLINICAL SIGNS

5/27/22 owner went out of town and Tank stopped eating, started vomiting, and having diarrhea. Owner thought that it was separation anxiety. Tank hasn't eaten anything for the last two weeks. Owner has been trying to entice him with anything she can think of (wet food, peanut butter, treats) Current medications: Cerenia 30mg SID, Metronidazole 250mg BID (last given this morning), Apoquel 8mg SID (when allergies flares up)

Abnormal PE/Chem/CBC/UA Results: Panhypoproteinemia (Alb 1.9, Glob 1.9), elevated AST 78, hypocalcemia 8.2, hypomagnesemia 1.4, leukocytosis (26.1k) characterized by neutrophilia (22.19k) with bands (1044), and monocytosis (1566). Mild toxic changes noted on blood smear.

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 prostate is normal in size (0.70 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (5.12 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 (5.7 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 0.52 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.

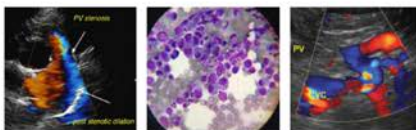
The right adrenal gland is normal in size measuring 0.46 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

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 normal to borderline small in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

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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

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.

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The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Duodenum wall measured 0.49 cm. Jejunum wall measured 0.44 cm.

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Neutered Male

Visualized peristalsis appears appropriate. While no focal mass lesions are visualized, there are some bowel loops that appear moderately fluid distended with subjectively reduced motility and mucosal striations.

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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 nonformed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas**WEIGHT**

15.6 kg

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**INTERPRETED BY**

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

There is scant free abdominal fluid. There are prominent mesenteric lymph nodes visualized measuring 0.66 cm and 0.55 cm in diameter. The omentum appears mildly increased in echogenicity.

PRIMARY FINDINGS

- Subjectively thickened, mildly fluid dilated small intestine with some mucosal speckling and striations – The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia. 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.
- Prominent mesenteric lymph nodes – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.
- Scant anechoic free abdominal fluid.

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SECONDARY FINDINGS

- Nonformed fecal material evident in the colon.
- Subjectively normal/slightly small liver.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

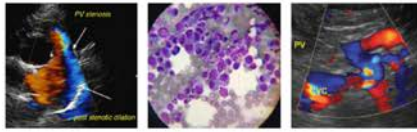
No focal lesions are observed in the gastrointestinal tract to explain the vomiting and diarrhea reported. Overall, the bowel appears somewhat thickened, and some areas appear fluid dilated with reduced motility and some mucosal changes (speckling, striations, etc.). These are suggestive of a primary GI issue, likely a protein losing enteropathy.

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Recommend pre- and post-prandial bile acids to ensure there is no concurrent liver dysfunction, and a urine protein to creatine ratio to look for concurrent protein loss from the kidneys.

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There are many potential causes for a primary protein losing enteropathy. Most commonly these would be IBD, lymphangiectasia, Addison's disease, severe parasite burden, or GI neoplasia.

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- Recommend parasite screening and deworming if not already done.
- Recommend a baseline cortisol level or ACTH stimulation test.
- Recommend GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to look for evidence of B12 deficiency, dysbiosis, etc.
- Recommend GI biopsies. In cases of protein losing enteropathy, if possible I typically recommend endoscopic biopsies, but surgical biopsies are also an options with close monitoring post-operatively for signs of dehiscence.

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

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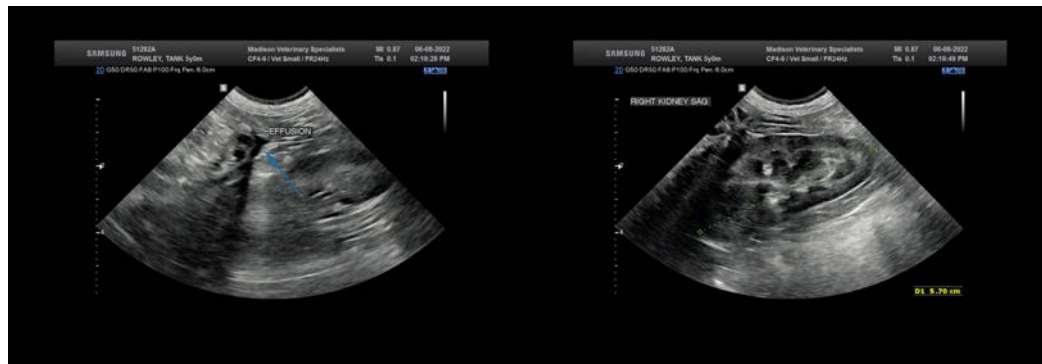
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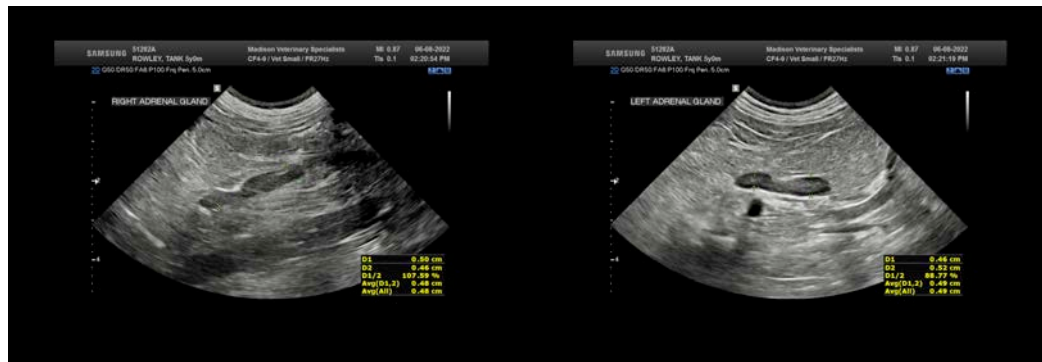
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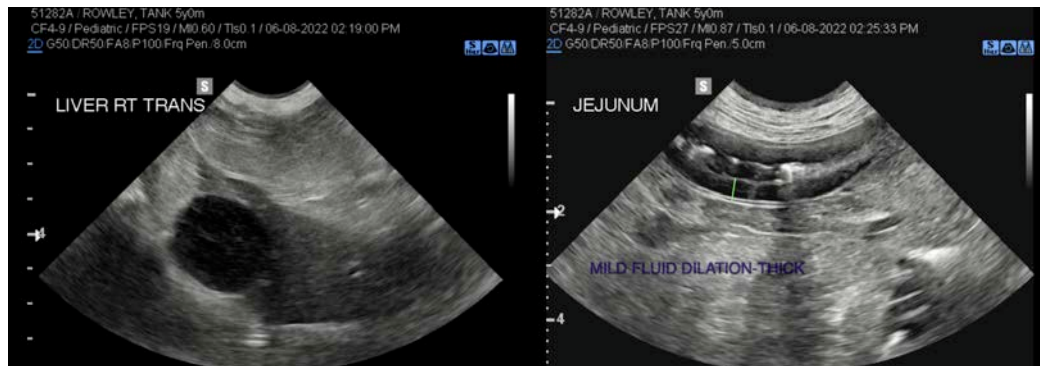
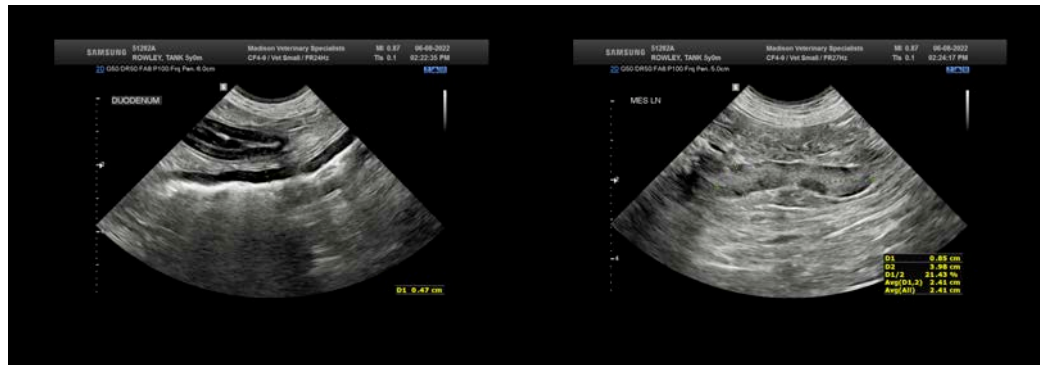
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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