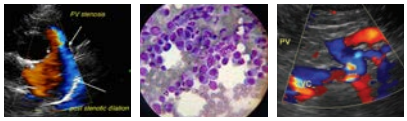
IMAGING PERFORMED BY

IntraPet.com



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DATE

7/18/23

PATIENT

Blu Gamble

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Neutered Male

AGE

6/8/15

WEIGHT

6.6 Pounds

INTERPRETED BY

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

HOSPITAL NAME

Northwind AH

REFERRING VET

Dr. Repsher

INVOICE

44082

PRESENTING CLINICAL SIGNS

Master List: Chronic intermittent vomiting, Diarrhea, Weight loss (~ 2-3lbs), Seizure, Lethargy and Anorexia low proteins and elevated WBCs on BW. Seen by Family Pet Hospital for GI issues 05/03/2023 - Report listed signs of GI stasis / possible obstruction and some radio-opaque material in colon. P was treated with Cerenia, SQ fluids, and IM inj of Baytril, sent home with GI low fat and meclizine. presented to us on 06/16 for second opinion, Per O responded to therapy initially then relapsed displaying lethargy, decreased appetite, vomited a worm and may have had a seizure. Evaluated by Dr Miller 6/16 - Repeated rads, Full BW and UA, treated with cerenia and metronidazole. Foreign material resolved / gone, still noted increase gas some evidence of stasis. BW showed low proteins and elevated WBCs, O also reported another seizure 3 days later - ER and US was recommended but O held off wanted to monitor P responded to treatment but continued to have diarrhea, has lost 1lb in 1 month and O reports in his prime P weighed 10 lbs. Presented 7/12 for continued diarrhea and some blood present in stools.

Current Medications: In june: Metronidazole 250 mg - 1/4 tab BID for 10 days, Cerenia 16 mg QD for 4 days.
Currently: Metronidazole liquid 100mg/ml - 45 mg BID, Clavamox 37.5 mg BID, Proviable capsules
Lab Results: Hypoabluminemia and Hypoglobulinemia, neutrophilia, also noted decreased ca and t4. GI malabsorption panel pending.
Radiographs: Increased gas in colon, subjectively thicker looking SI.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Andi Parkinson, BS, RDMS.

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 visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (3.78 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 (4.26 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 left adrenal gland is normal in size measuring 0.65 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 0.56 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 subjectively normal 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.

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.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall thickness is increased. Bowel loops follow a typical curvilinear path. Some areas have reduced detail of wall layering. Duodenum wall measures 0.56 cm. Jejunum wall measures 0.50 cm. There is mucosal fogging and speckling evident. 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 right limb of the pancreas is prominent and mottled 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.

Free Abdomen

There is a small amount of free abdominal fluid. No lymphadenopathy. The omentum is diffusely hyperechoic.

ULTRASONOGRAPHIC FINDINGS

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- Prominent, mottled right limb of the pancreas – The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

- Diffusely thickened small intestine with mucosal fogging and speckling – The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia. Bright mucosal speckling has been postulated to represent dilated lacteals or focal accumulations of mucus, cellular debris, etc.. in the mucosal crypts.

- Scant free abdominal fluid.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a general impression of diffusely thickened small intestine with reduced detail of wall layering, mucosal fogging, and mucosal speckling. Given the history provided and the breed, there is a strong suspicion for a primary protein losing enteropathy. The cause of protein enteropathy would include severe IBD, lymphangiectasia, or intestinal neoplasia. These are differentiated by biopsy, which would help to determine the optimal treatment plan and prognosis.

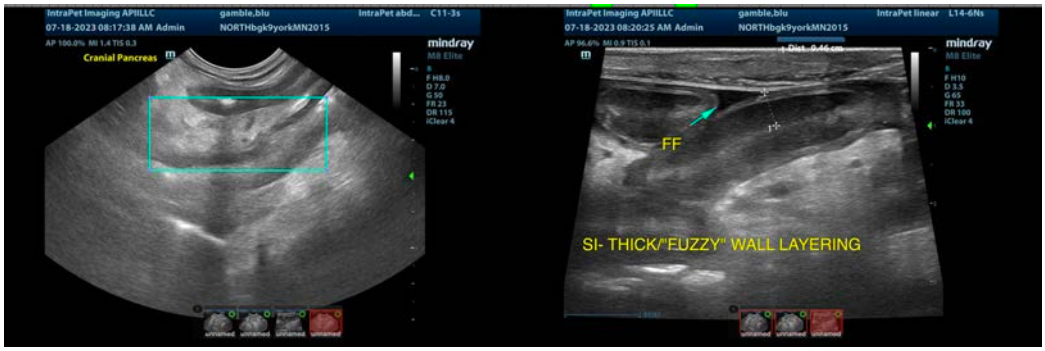
Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

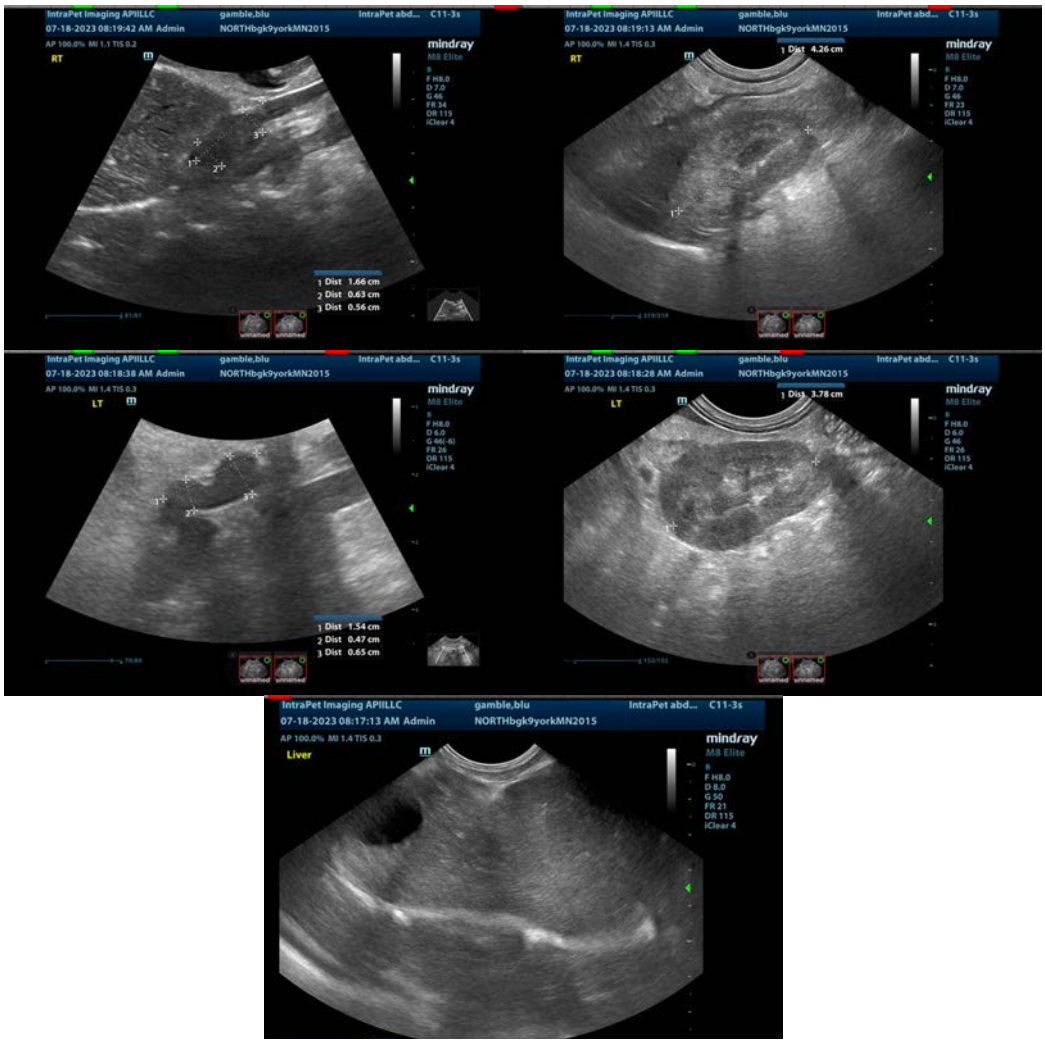
Ideally, endoscopic GI biopsies would be performed once this patient is stabilized. Prior to that, consider the following:

- Recommend a hydrolyzed protein diet or ultra low fat diet.
- 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. (I believe this is already pending.)
- Recommend chronic probiotic therapy.
- Recommend and ionized calcium. Often these patients will require calcium +/- magnesium supplementation, as they can develop a clinical hypocalcemia.

If the patient is not stable enough for endoscopy, consider starting and anti-inflammatory dose of steroids (0.5 mg/kg per day) to stabilize prior to obtaining GI biopsies.

Consider a liver function test (pre- and post-prandial bile acids), a urine protein to creatinine ratio, and a urinalysis to rule out concurrent protein loss from other sources.





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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