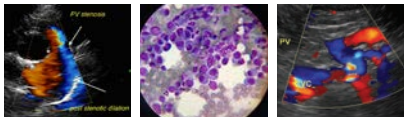
IMAGING PERFORMED BY

IntraPet.com



SonoPath
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DATE

3/1/23

PATIENT

Zeke Galmore

SPECIES

Canine

BREED

English Bulldog

SEX

Intact Male

AGE

10/12/17

WEIGHT

39 Pounds

INTERPRETED BY

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

HOSPITAL NAME

Eastern AH

REFERRING VET

Dr. Bottaro

INVOICE

45610

PRESENTING CLINICAL SIGNS

Presented 3 weeks ago for liquid diarrhea, decrease appetite, and decreased energy level. Hypoalbuminemia. Treated with diagel, visbiome, and entyce - no improvement. Presented today (2/28) with liquid diarrhea. O states no improvement since last visit. Slightly lethargic at home, decreased appetite at home.

Current Medications: Started today (2/28) on metronidazole 250mg PO q 12 hours, tylan powder 1/8 tsp PO q 12 hours, proviable paste 4ml PO q 8 hours and one proviable capsule q 24 hours, cerenia 17mg IV.
Lab Results: 2/9- Ca 7.3, K 4.4, TP 4.2, Alb 1.7, Glob 2.5, Alt 216. 2/28- Ca 7.6, K 6.5,, TP 3.7, Alb 1.6, Glob 2.1, Alt 276.
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 prostate is large in size (2.57 cm x 3.13 cm) but has a regular shape with smooth external margins. The parenchyma is hyperechoic and mildly heterogenous but no discrete focal lesions are present. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (6.57 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 (6.09 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 0.56 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 0.62 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 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.

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. Mucosal speckling is visualized. Duodenum wall measures 0.75 cm. Jejunum wall measures 0.55 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 prominent and hypoechoic as 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 scant free abdominal fluid. No lymphadenopathy. The omentum is diffusely hyperechoic.

Other
Both testicles are visualized and appear within normal limits.

ULTRASONOGRAPHIC FINDINGS

- Large, hyperechoic, heterogeneous prostate – Prostatic changes are most consistent with benign prostatic hyperplasia. Other differentials include bacterial prostatitis and prostatic neoplasia. However, given the lack of lower urinary tract symptoms, these differentials are considered less likely in this patient.

- Prominent, hypoechoic pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

- Moderate ingesta visualized within the gastric lumen – Correlate this with the feeding history. If the patient is adequately fasted, consider the possibility of delayed gastric emptying or a partial outflow tract obstruction (none observed).

- Diffusely thickened small intestine with mildly reduced detail of wall layering and mucosal speckling – The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia. A reduction in the detail of wall layering favors either severe intestinal disease or neoplastic

infiltration. Biopsy is recommended. 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

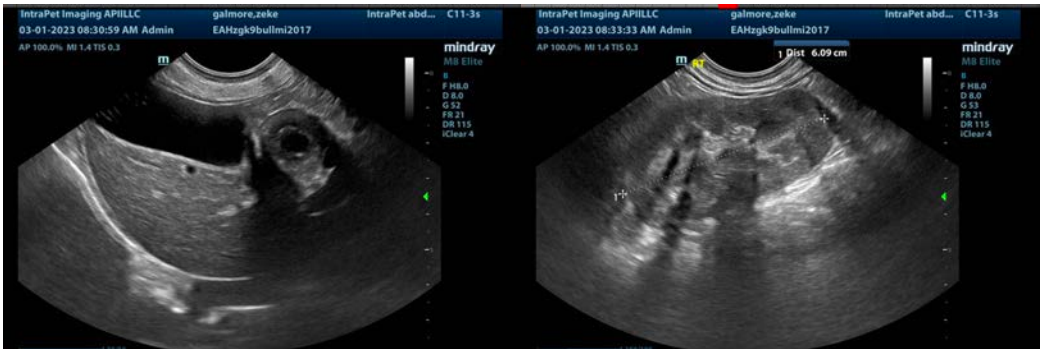
The small bowel appears diffusely thickened with wall changes such as mildly reduced wall distinction and mucosal speckling. These findings are suggestive of a primary diffuse enteropathy, and with the low albumin levels reported, this would be classified as a protein losing enteropathy.

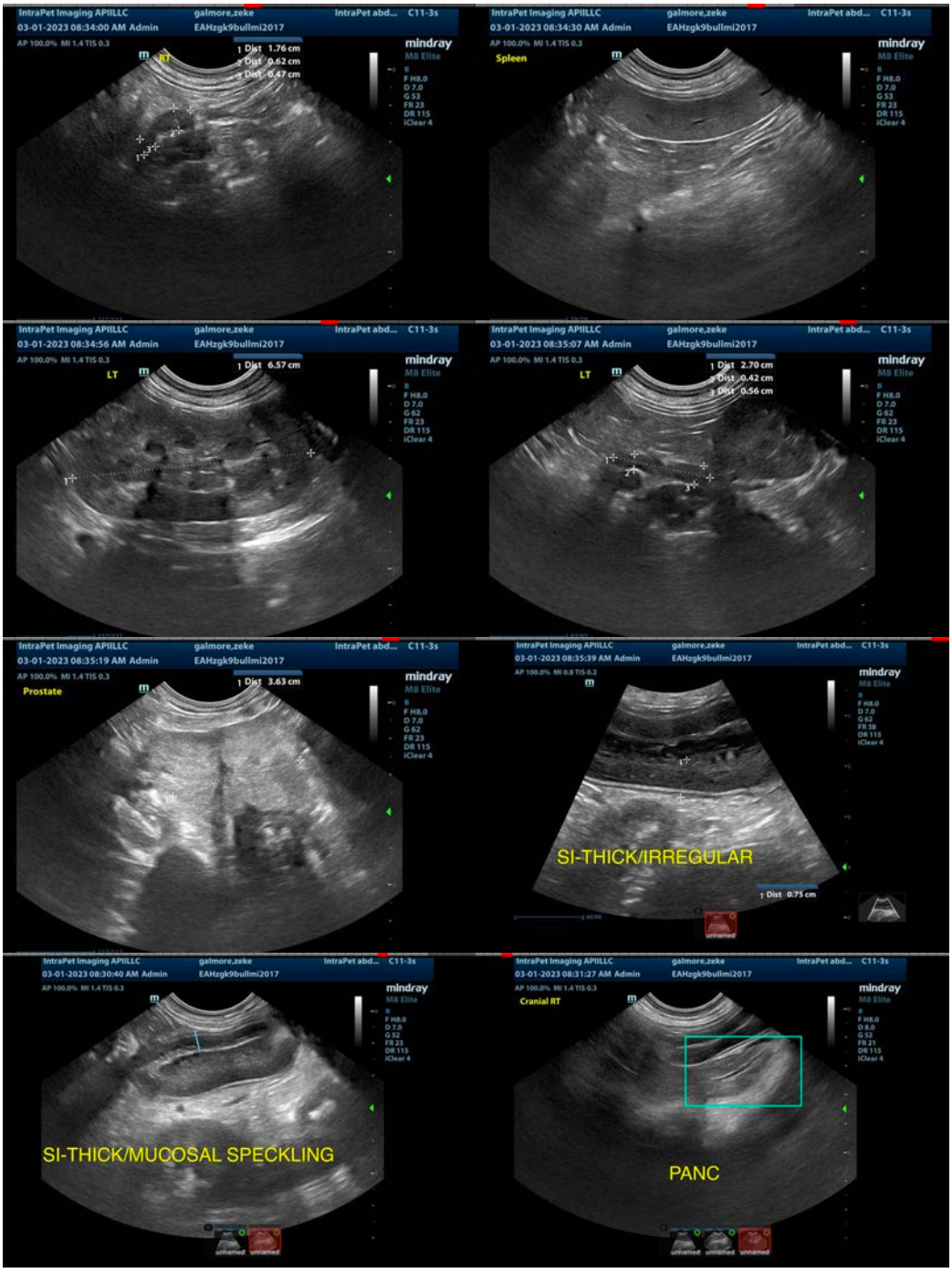
Ideally, I would recommend evaluation of a urine protein to creatinine ratio and a liver function test to rule out the possibility of concurrent renal or liver disease contributing to the hypoalbuminemia.

The 3 primary differentials for protein losing enteropathy include IBD, lymphangiectasia, and neoplasia (other differentials exist). Unfortunately, GI biopsies are necessary to differentiate between these processes. Ideally, endoscopic biopsies of the small bowel would help to better define this issue and determine a treatment plan. Additionally, consider:

- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks)
- 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 pre- and probiotic therapy.
- Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.
- Recommend GI biopsies (I typically recommend endoscopic biopsies when the albumin level is low).

The prostate is large and hyperechoic. These changes are most consistent with an intact male dog, benign prostatic hypertrophy +/- prostatitis. Consider a urinalysis and culture and possibly neutering when this patient is stabilized.




IntraPet Imaging APIILLC
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Spleen
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LT
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Prostate
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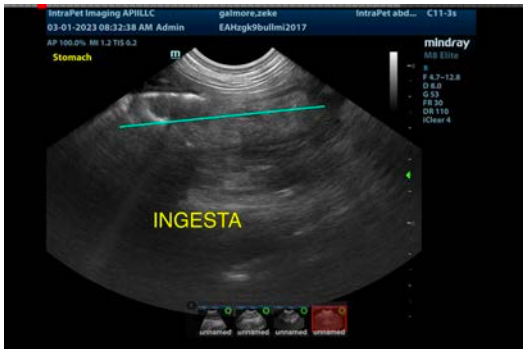
Cranial RT
PANC



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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