



PATIENT

Layla Rodriguez

SPECIES

Canine

BREED

English Bulldog

SEX

Spayed Female

AGE

11 Years

WEIGHT

44 Pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Jack Reese

HOSPITAL NAME

Willow Run VC

REFERRING VET

Dr. Gwenna Brubaker

INVOICE

46770

DATE

4/19/23

PRESENTING CLINICAL SIGNS

Diarrhea and weight loss since December of 2022. Owner noted P losing weight having consistently loose stools, also reports that P occasionally looks 'bloated' at home. Concern for IBD - owner initially declined diagnostics due to financial concerns - prednisone, Vitamin B12 injections, and Purina HA were started in March 2023. Owner opted to pursue U/S after 4 weeks of treatment due to continued diarrhea and weight loss. P had surgical treatment of pyometra in September 2022.

Abnormal PE/Chem/CBC/UA Results: No recent lab work Labwork from September 2022 unremarkable aside from neutrophilia secondary to pyometra

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (6.59 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in shape and echogenicity. However, size cannot be determined because the entire kidney is not present in one view in these images. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

The right adrenal gland is normal in size (0.85 cm at the cranial pole and 0.74 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is enlarged (4.8 cm x 3.5 cm) with mild heterogenous parenchymal changes. Swollen capsular expansion is noted without evident capsular escape or vascular invasion.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). A 0.80 cm x 1.8 cm hypo- to anechoic non-capsule disrupting nodule is noted. Splenic vasculature appears normal.

Liver

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.



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Gastrointestinal

The visible stomach wall is normal in thickness and layering. A 1.1 cm x 1.3 cm hypoechoic, non-shadowing, round structure within the lumen of the stomach is noted. This structure does not appear to be attached to the wall, but tissue can't be ruled. Ingesta or foreign object are considered more likely. Pyloric outflow tract appears patent.

Small intestine is diffusely mildly thick with a relatively thick mucosa compared to other layers. Normal wall layering is preserved; however, the mucosa is more echogenic than normal and contains hyperechoic striations perpendicular to the lumen. The lumen is empty with no evidence of obstruction or foreign material.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is a scant amount of anechoic free fluid between bowel loops.

There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS

- **Lymphangiectasia** – Small bowel findings are most consistent with lacteal dilation. These findings can be observed with protein-losing enteropathies caused by either primary lymphangiectasia or primary infiltrative inflammatory disease with secondary lymphangiectasia. Infiltrative neoplasia is possible but considered less likely. Histopathology is necessary to definitively determine underlying cause.
- The structure within the lumen of the stomach described above is likely normal kibble or potentially non-obstructive foreign object. However, tissue cannot be definitively ruled out. Color flow doppler could be helpful to help differentiate.
- The left adrenal mass is concerning for an adrenal cortical tumor such as an adenocarcinoma or possibly adenoma. There are non-definitive signs of malignancy ultrasonographically to help differentiate. Additionally, a pheochromocytoma is a differential. This finding should be interpreted in combination with clinical signs of hyperadrenocorticism and/or other adrenal disease.
- Scant amount of anechoic free fluid – Given the appearance of this patient's bowel, the free fluid is concerning for possible hypoalbuminemia, which may warrant recheck labs.

SECONDARY FINDINGS

- **Hypo to anechoic splenic nodule** – likely represents a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Ideally, a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

Ideally, biopsies of the GI tract are recommended to definitively diagnose and therefore manage the infiltrative bowel process.

If biopsies cannot be obtained safely due to low albumin or patient stability, etc., empirical therapies could include diet change to an ultra-low fat diet, empirical deworming with a 5 day course of Panacur, cobalamin supplementation (unless cobalamin level is evaluated and supplementation is not warranted) a probiotic and prednisolone (if not contraindicated based on patient contraindications, co-morbidities, etc.). Calcium monitoring, and supplementation, if necessary, is also recommended.

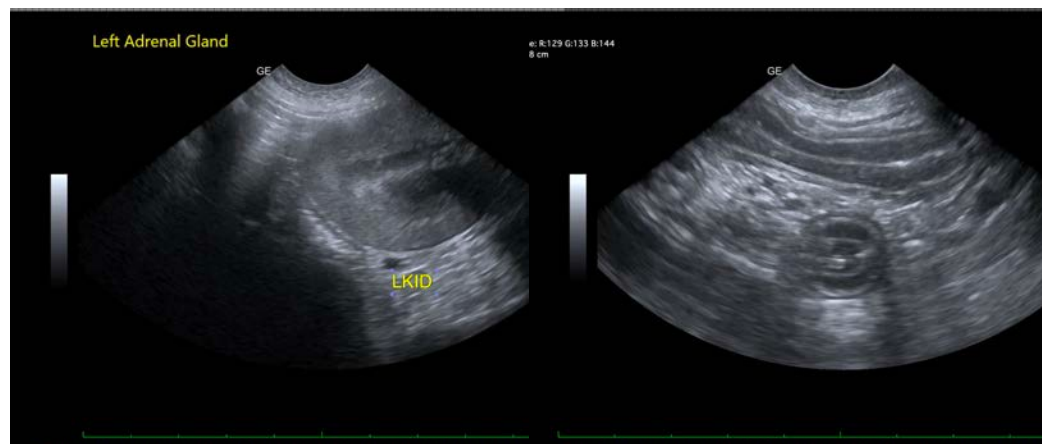
If possible to recheck labs, this would also be recommended to help confirm or rule out hypoalbuminemia, which would further support a diagnosis of protein losing enteropathy and further strengthen the recommendation to transition to a low-fat diet.

The gastric structure described above is of unknown clinical significance, and monitoring clinical signs, etc. should be considered and/or recheck with color flow doppler could be considered.

Pending owner's wishes regarding the gastrointestinal disease, further evaluation of the adrenal nodule, which is likely incidental and not related to the diarrhea, but could be a significant medical finding in this patient, could include a low-dose Dexamethasone suppression test to start with.

Additionally, blood pressure is recommended if not recently checked.

Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.





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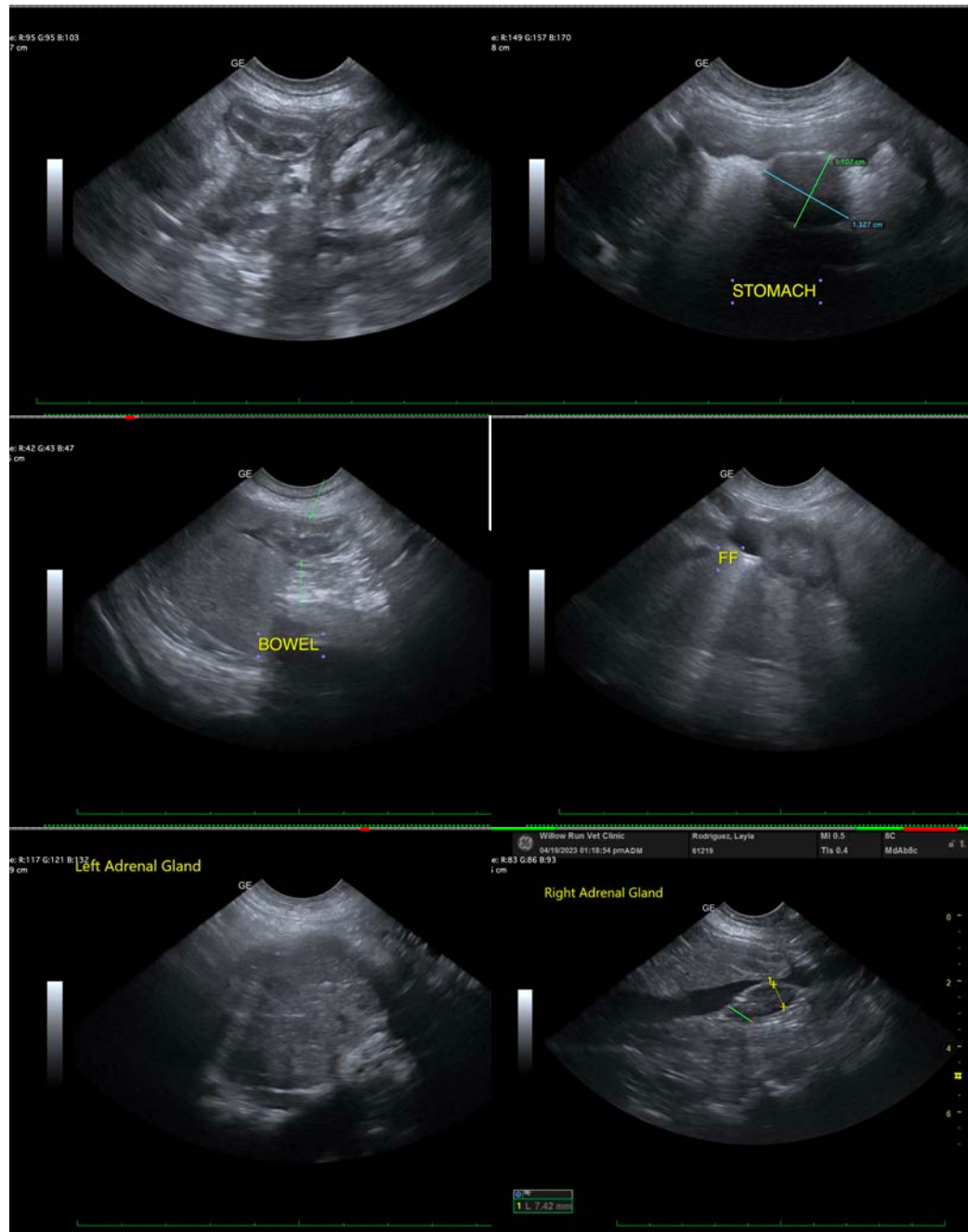
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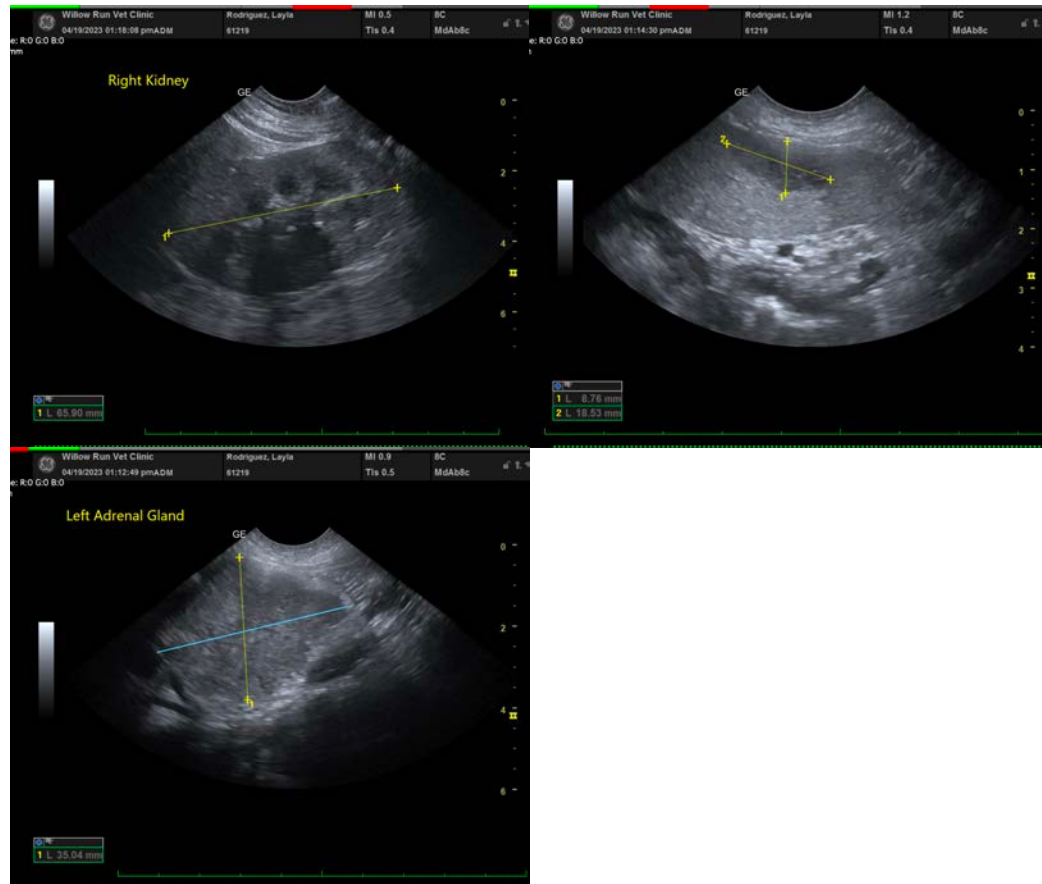
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com