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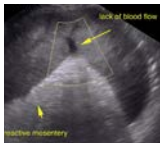
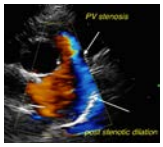
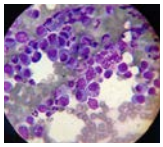
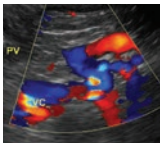





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Maggie Sanders

SPECIES

Canine

BREED

Golden Retriever

SEX

Spayed Female

AGE

10 Years

WEIGHT

75 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Jack Reese

HOSPITAL NAME

Willow Run VC

REFERRING VET

Dr. Gwenna Brubaker

INVOICE

43372

DATE

6/22/23

PRESENTING CLINICAL SIGNS

Recurrent gastroenteritis - P develops diarrhea, occasional vomiting at home - responsive to supportive care, but returns after 1-2 months. Owner feeding prescription bland diet at home (EN, I/D). P otherwise seems to be doing well at home, activity and appetite have been unchanged.

Abnormal PE/Chem/CBC/UA Results: Recent labwork unremarkable (April 2023) Pendulous abdomen

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 (8.35 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 size (6.53 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.

Adrenal Glands

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Visible surrounding vasculature appears normal. The right adrenal gland measures 2.1 cm at the cranial pole and 1.1 cm at the caudal pole. A hyperechoic nodule is noted in the cranial pole of the left adrenal gland. Nodule does not disrupt normal shape and/or architecture. The left adrenal gland measures 2.0 cm at the cranial pole and 0.90 cm at the caudal pole.

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). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

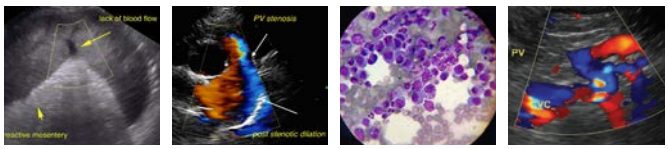
The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal 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.

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions



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per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

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 no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

In the cranial abdomen in the area of the right adrenal gland there is a 5.6 cm long x 2.2 cm wide opacity within the caudal vena cava.

ULTRASONOGRAPHIC FINDINGS

- Bilateral adrenomegaly – consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism versus stress or normal variant. Bilateral adrenal cortical tumors are possible but considered less likely. This finding should be interpreted in combination with the clinical signs of hyperadrenocorticism or other adrenal disease.

- Hyperechoic adrenal nodule cranial pole left adrenal gland – Differentials include primary adrenal cortical adenoma or adenocarcinoma, pheochromocytoma, myelolipoma, adrenal hyperplasia secondary to pituitary disease or metastatic disease. Ultrasound alone cannot differentiate between functional and non-functional nodules and/or between benign and malignant disease. Small nodules without other evidence of abdominal disease (to suggest metastatic disease) and/or clinical signs (to suggest adrenal disease) are most often incidental and should be monitored.

- The opacity within the lumen of the caudal vena cava is most consistent with a thrombus likely secondary to a hypercoagulable state possibly brought on by hyperadrenocorticism, possibly proteinuria, etc. Tumor invasion versus a thrombus is possible but considered less likely, and if present is of unknown origin.

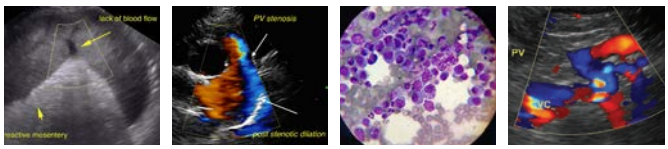
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This patient's adrenal findings and suspected thrombus are likely incidental and unrelated to the patient's presenting clinical complaint of intermittent gastroenteritis. Therefore, recommendations are for both separate problems. Given the recurrent episodes of gastroenteritis, further diagnostic recommendations include:

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.

A fecal enteropathogen PCR panel to Texas A&M GI Laboratory could be considered for further evaluation of possible infectious disease.

Ultimately, if clinical signs persist and a diagnosis isn't reached, further evaluation of the GI tract may be necessary up to and including biopsies.



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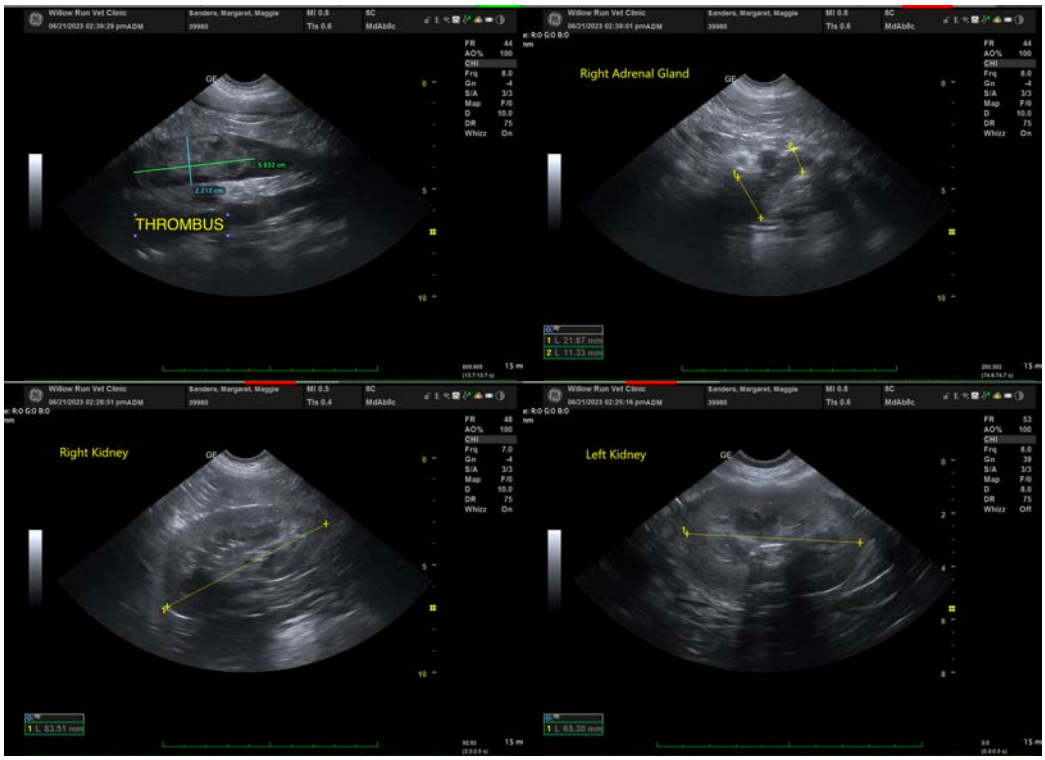
In the meantime, empirical therapies could include empirical deworming with a 5-day course of Panacur as well as, if tolerated, a transition in diet to a hydrolyzed protein diet from the bland easy to digest diet that is reportedly being fed currently. Some patients respond better to one brand or version of hydrolyzed protein diet over another, so sometimes several trials are warranted. A probiotic such as Visbiome or Proviable may also be helpful.

Given the concern for thrombus in this patient, a blood pressure is recommended if not recently evaluated.

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.

If clinical signs of hyperadrenocorticism are present including PU/PD, etc., then a low-dose Dexamethasone suppression test may also be indicated. If clinical signs of hyperadrenocorticism are not present, then simply assessing for proteinuria and medically managing a suspected hypercoagulable state may be all that is clinically necessary at this time. A contrast abdominal CT scan would be helpful to more definitively diagnose thrombus versus tumor invasion.

In the meantime, low-dose aspirin or Clopidogrel should be considered while awaiting results and making a workup/treatment plan.



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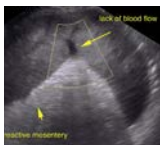
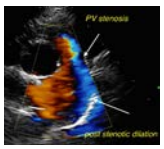
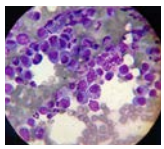
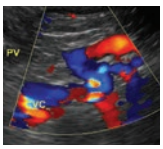

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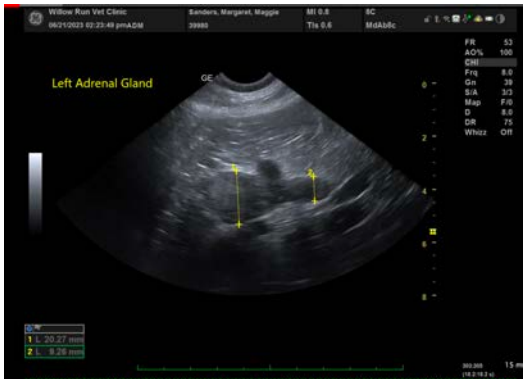

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
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