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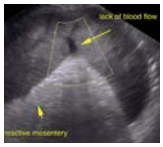
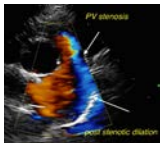
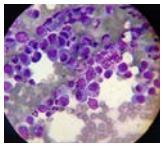
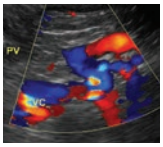
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT
Maximus Schott

SPECIES
Canine

BREED
Soft Coated Wheaten

SEX
Neutered Male

AGE
5 Years

WEIGHT
50.6 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Jack Reese

HOSPITAL NAME
Willow Run VC

REFERRING VET
Dr. Gwenna Brubaker

INVOICE
44146

DATE
1/11/23

PRESENTING CLINICAL SIGNS

3-week history of watery diarrhea and vomiting at home. P presented for diarrhea 2 weeks ago, treated with metronidazole, probiotics, Cerenia with minimal improvement. Presented today for continued GI symptoms and now non-weight-bearing on LH leg. Sedated exam (high anxiety) revealed pitting edema of lower limbs, and significant swelling of LH tarsus.

Abnormal PE/Chem/CBC/UA Results: WBC 20.31 (5.05 - 16.76 K/µL) Calcium 6.7 (7.9 - 12.0 mg/dL) Total Protein 3.5 (5.2 - 8.2 g/dL) Albumin 1.5 (2.3 - 4.0 g/dL) Globulin 2.0 (2.5 - 4.5 g/dL)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is only mildly distended (empty). Visible contents are anechoic. Urinary bladder wall is unable to be fully assessed for pathology without further distension. No visible masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface. If there are urinary signs and/or concern for urinary bladder pathology, reassessment after complete filling is recommended.

The area of the prostate is examined without evident prostatic pathology.

The right kidney is normal in size (6.39 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 (5.97 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

The right adrenal gland is normal in size (0.66 cm at the caudal pole and 1.0 cm at the cranial pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.41 cm at the cranial pole and 0.53 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

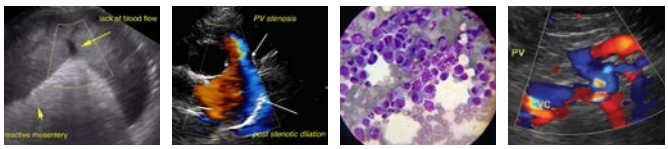
Spleen

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.



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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.

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

A scant amount of anechoic free fluid and diffusely hyperechoic enhanced mesenteric fat is noted.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC 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.

- **Scant amount of anechoic free fluid and enhanced mesenteric fat** – likely secondary to the diffuse bowel disease and reported hypoalbuminemia.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

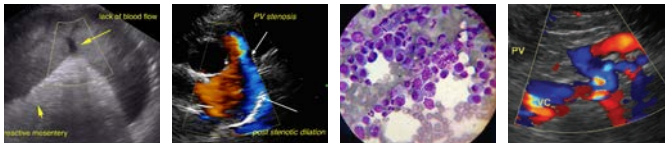
A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

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.

Additionally, if patient's coagulation status is appropriate, antithrombotic such as low-dose aspirin or Plavix may be considered to prevent secondary thrombus associated with the protein loss.

Additionally, to rule out concurrent proteinuria as a contributing factor to the hypoalbuminemia, if not recently evaluated, a urinalysis and, if indicated based on urinalysis results, urine culture are



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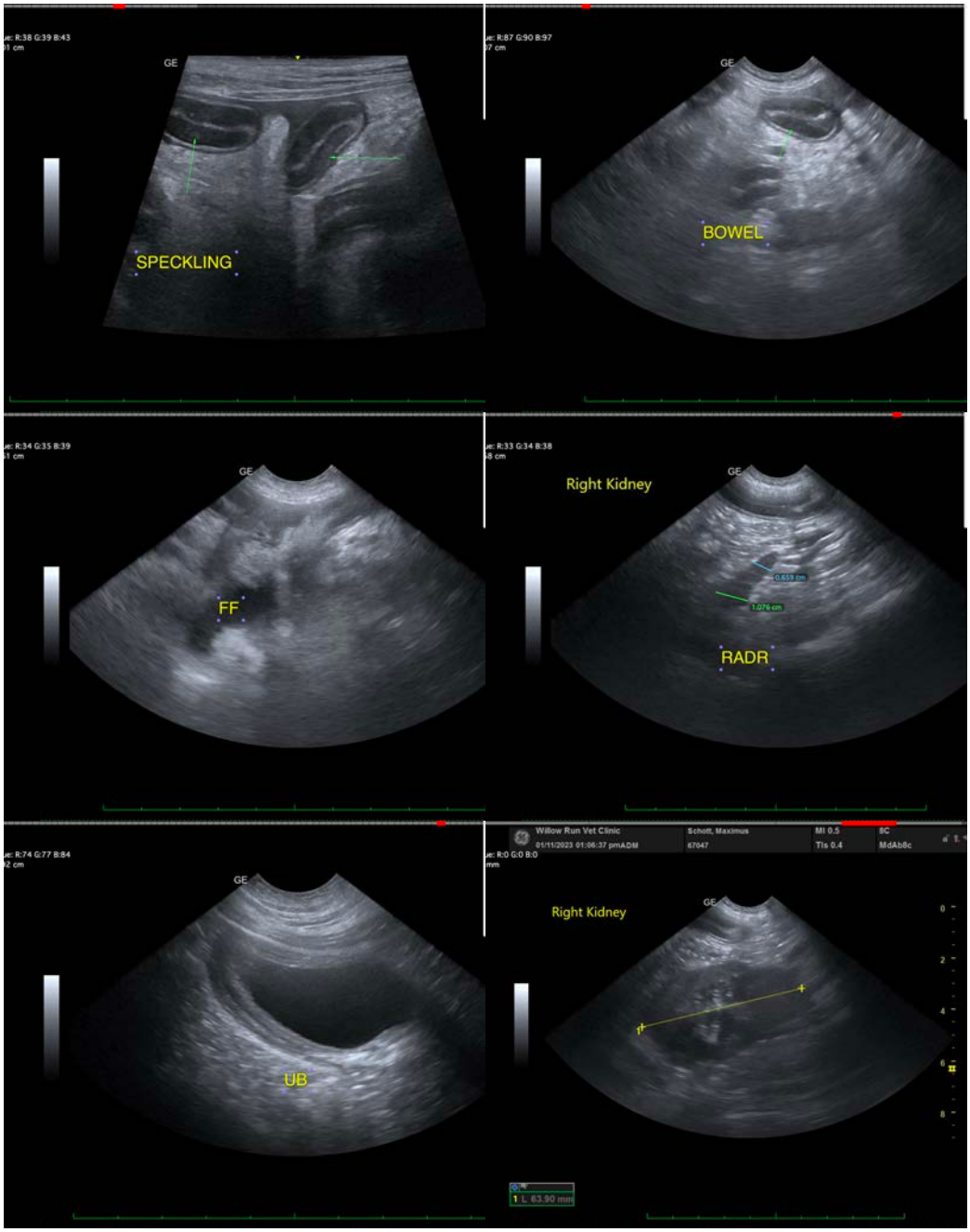
recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.



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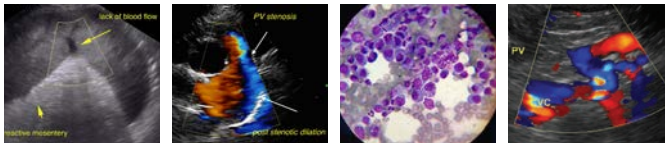

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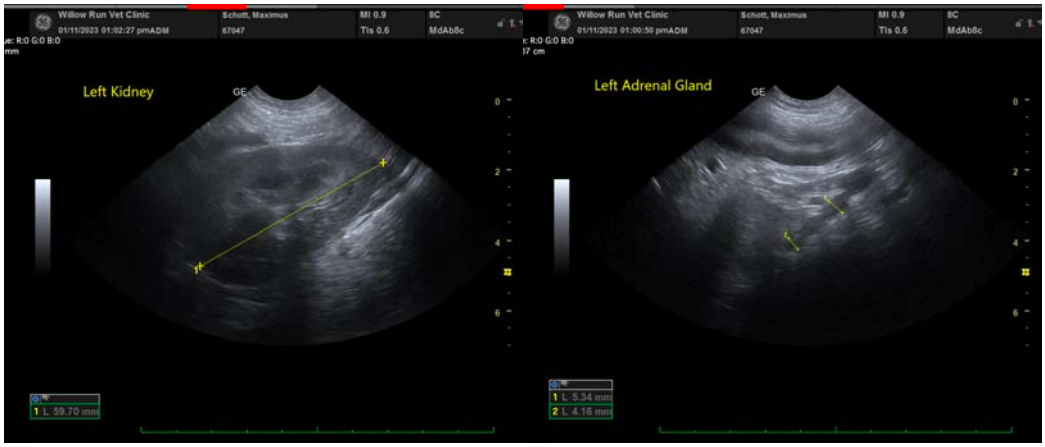

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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