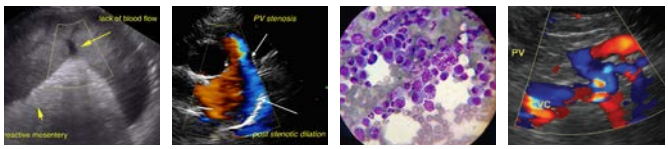
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Callie Wells

SPECIES
Canine

BREED
St. Bernard X

SEX
Spayed Female

AGE
10 Years

WEIGHT
100 Pounds

INTERPRETED BY
Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY
Jack Reese

HOSPITAL NAME
Willow Run Vet Clinic

REFERRING VET
Dr. Gwenna Brubaker

INVOICE
46107

DATE
3/22/23

PRESENTING CLINICAL SIGNS

History of CKD - decreased interest in dry food recently, owner has noted dry cough at home. Bloodwork performed at recent exam showed anemia - recommended abdominal U/S to rule out obvious neoplastic change in abdomen contributing to anemia.

Abnormal PE/Chem/CBC/UA Results: RBC 4.69 (5.39 - 8.70 M/µL) Hematocrit 26.8 (38.3 - 56.5 %) Hemoglobin 8.9 (13.4 - 20.7 g/dL) MCV 57 (59 - 76 fL) MCH 19.0 (21.9 - 26.1 pg) IDEXX SDMA 25 (0 - 14 µg/dL) Potassium 5.8 (4.0 - 5.4 mmol/L) Na: K Ratio 26 (28 - 37) Total T4 <0.4 (1.0 - 4.0 µg/dL)

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.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. The right kidney measures 6.1 cm. The left kidney measures 6.0 cm.

Adrenal Glands

Adrenal glands are small (flattened contour). Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The right adrenal gland measures 0.53 cm at the cranial pole and 0.63 cm at the caudal pole. The left adrenal gland measures 0.44 cm at the cranial pole and 0.38 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

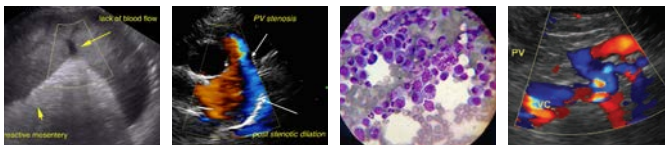
The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal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

Gallbladder is moderately distended with anechoic bile as well as moderate suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

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.

PRIMARY FINDINGS

- **Flat adrenal glands** – This can be a normal patient variant and/or a sign of exogenous cortisol administration. If exogenous steroids are not being administered, hypoadrenocorticism (either relative or absolute) should be considered.

- **Moderate gallbladder debris -** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

SECONDARY FINDINGS

- Age related kidney changes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

To rule out hypoadrenocorticism as contributing factor to this patient's historical azotemia, anemia, decreased appetite, etc., a baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

Further evaluation of kidney health is recommended if not recently evaluated via a urinalysis and, if indicated based on urinalysis results, urine culture. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ratio is recommended. Blood pressure is also recommended.

Finally, given the patient's reported cough, three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

In the meantime, given the history of chronic kidney disease and the new anemia, empirical medical management of possible uremic gastritis could be considered with antiemetics and gastroprotectants/antacids, as well as empirical deworming with a 5-day course of Panacur.

If there is no improvement and no other diagnosis is made from the above recommended tests, and the anemia is believed to be secondary to chronic kidney disease, then ultimately an erythropoietin supplement may be necessary.

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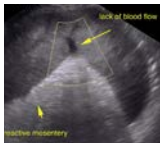
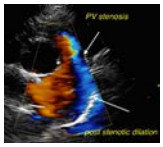
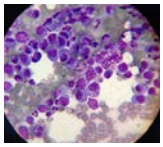
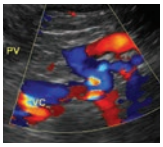

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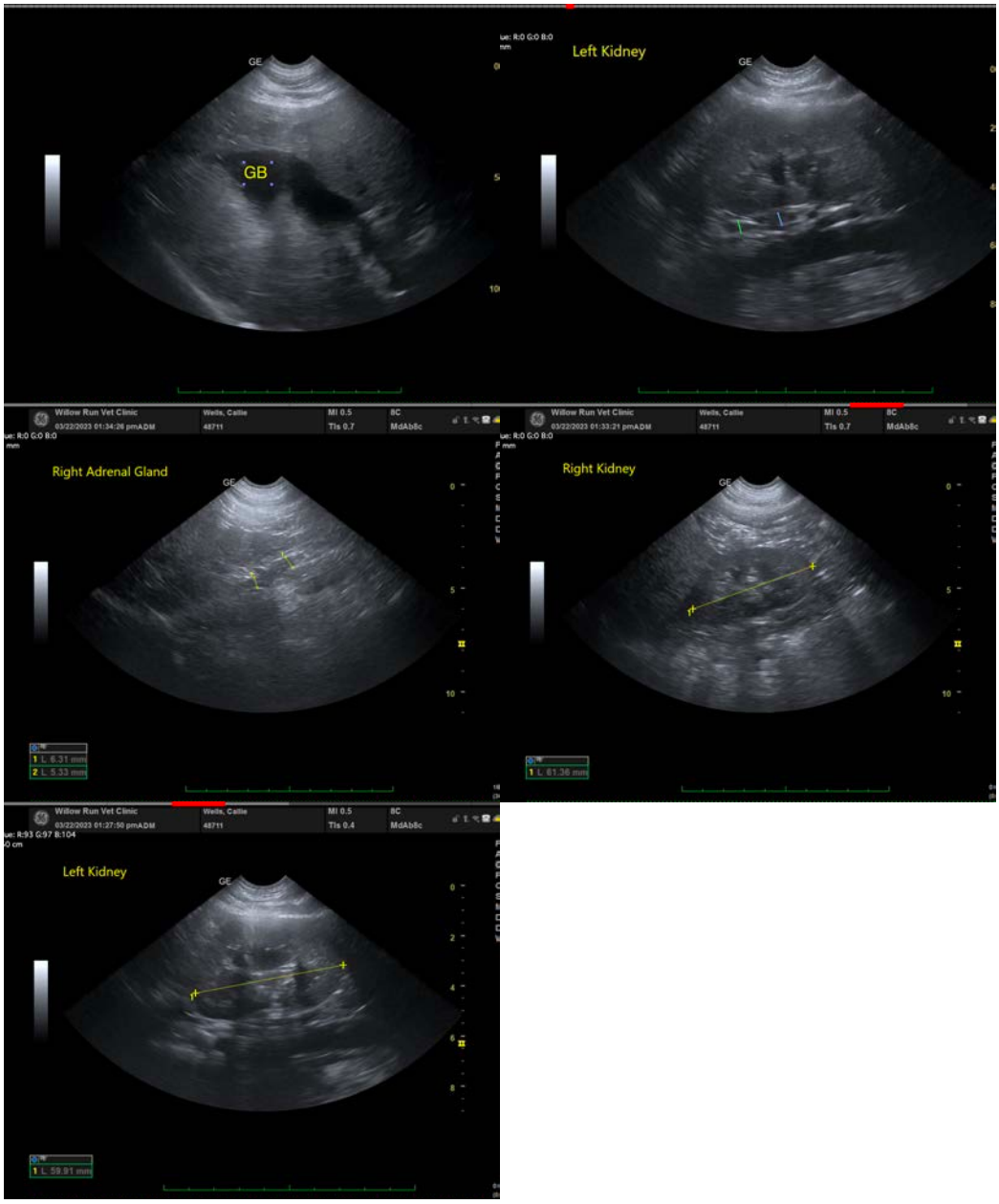

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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