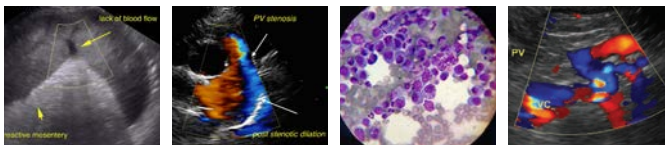
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Dakota Lynch

SPECIES
Canine

BREED
Mixed

SEX
Spayed Female

AGE
14 Years

WEIGHT
44 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Dr. Kitz

HOSPITAL NAME
Woodlands AH

REFERRING VET
Dr. Kitz

INVOICE
44460

DATE
1/24/23

PRESENTING CLINICAL SIGNS

History of chronic allergies and anal fistulas – has been on atopica/ketoconazole for a few years and is doing well clinically

Abnormal PE/Chem/CBC/UA Results: Routine senior lab work alerted us to a possible issue – she has had only very minor increase in ALKP on past labs (177), but this year her ALKP was 1506, her ALT was 273, and her AST was 160. She also had significant blood and some WBCs in her urine. She is showing no clinical signs suggestive of anything urinary or otherwise at this time.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Apical urinary bladder wall is diffusely thick (0.76 cm). Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal 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 left kidney measures 7.12 cm. The right kidney measures 8.65 cm. A 2.0 cm cortical cyst is noted in the caudal pole of the right kidney.

Adrenal Glands

The right adrenal gland is normal in size (0.67 cm at the cranial pole and 0.73 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.58 cm at the cranial pole and 1.0 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.

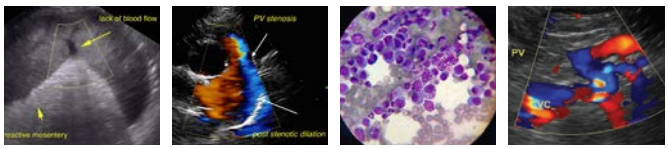
Liver

The liver contains a large 9+ cm, mostly homogeneous, hyperechoic mass in the mid to left liver, as well as a 2nd 2.5 cm x 3.5 cm heterogeneous, hypoechoic nodule/mass in the caudoventral liver, as well as several other cystic lesions.

Gallbladder is moderately distended with anechoic bile as well as mild 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.



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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 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

- **Multiple liver masses** – concerning for infiltrative neoplasia. Differentials include primary hepatic neoplasia such as hepatocellular carcinoma versus infiltrative round cell neoplasia or even sarcoma. Benign lesions, as can be seen with nodular hyperplasia, may be responsible for some of the changes, but diffuse benign disease is considered less likely.

SECONDARY FINDINGS

- **Chronic Cystitis -** Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.
- Age related kidney changes with a cortical cyst in the right kidney
- **Mild 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. The debris is adhered to the wall, and a polyp can't be definitively ruled out.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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.

A fine needle aspirate of the liver, ideally of the two separate masses, if possible, is recommended if patient's coagulation status is appropriate. Additionally, given this patient's reported urinalysis results, a urine culture should be considered. Alternatively, an exploratory laparotomy for planned liver lobectomy/mass removal could be considered. However, it does not seem probable based on these images that all of the visibly abnormal tissue could be excised. If surgery is elected, then a pre-surgical staging abdominal CT scan is recommended.

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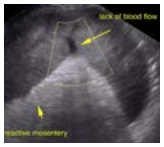
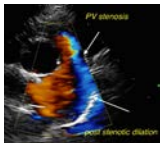
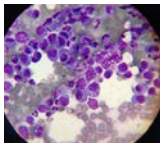
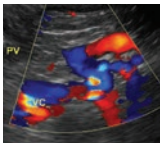

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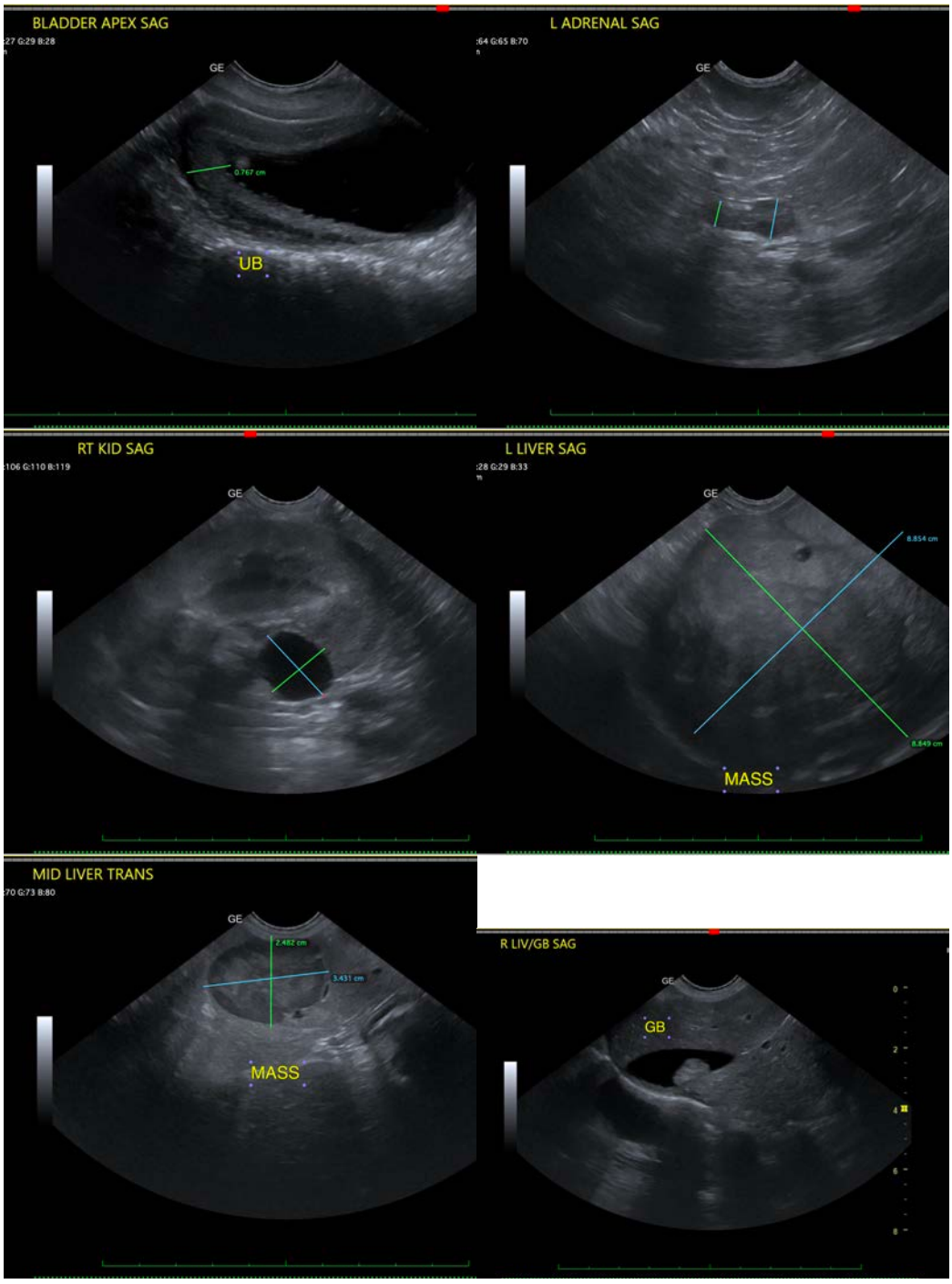

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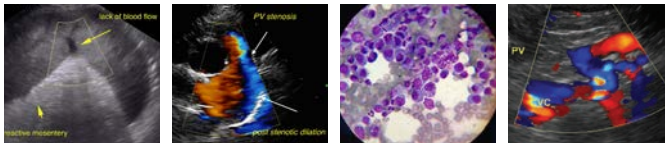

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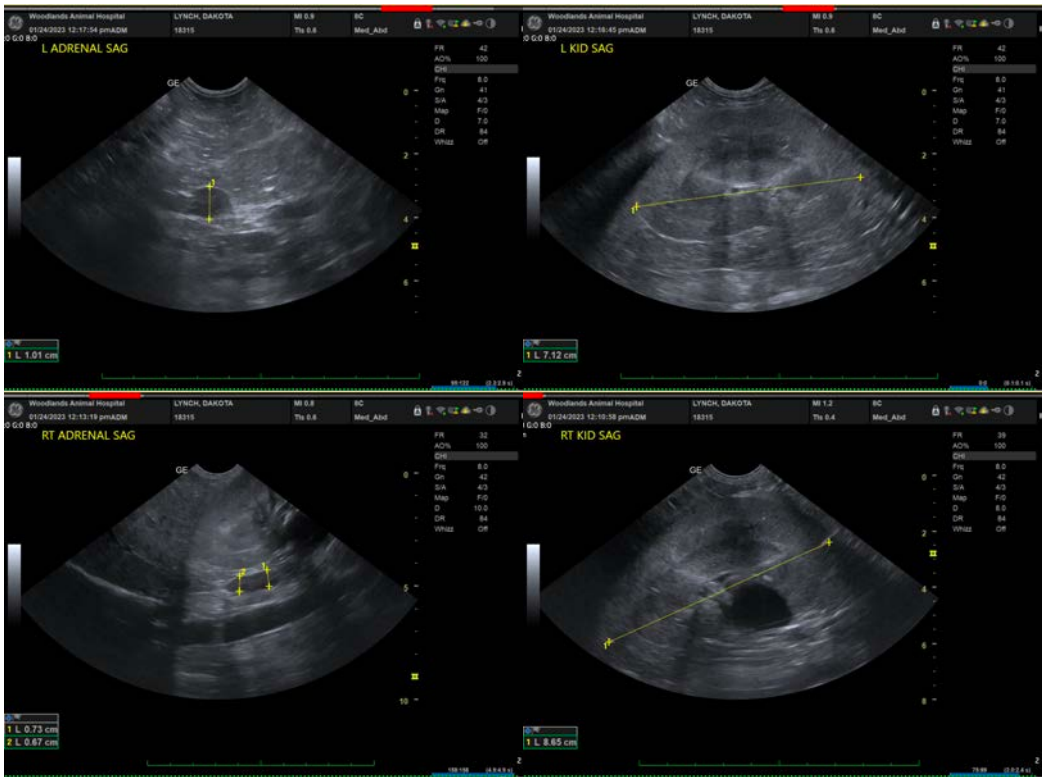

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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