SonoPath
Clinical Sonography & Telecytology
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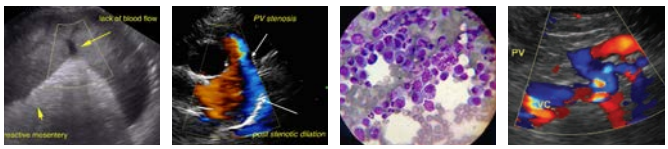

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1-800-838-4268 info@sonopath.com

PATIENT
Cookie Oh

SPECIES
Canine

BREED
Yorkshire Terrier

SEX
Neutered Male

AGE
13 Years

WEIGHT
12.2 Pounds

INTERPRETED BY
Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY
Kelly Vazquez

HOSPITAL NAME
Animal General on the Hudson

REFERRING VET
Dr. Vivian Ng

INVOICE
44155

DATE
1/11/23

PRESENTING CLINICAL SIGNS

Weight loss of 1 lb, elevated liver enzymes. Eats well, no G.I. signs, PU/PD. No current meds.

Abnormal PE/Chem/CBC/UA Results: ALT 469, ALP 1081, GGT 22, BUN 44, amylase 250, PSL 2900, T4 0.6. U/A: 2+ protein, trace blood (cysto), USG 1.013.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses or inflammatory changes. Multiple shadowing cortical cysts are present, with the largest ranging between 0.50-0.70 cm in size. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

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 4.39 cm, with multiple cortical cysts noted. The left kidney measures 4.0 cm, with a cortical cyst noted in the cranial pole and a smaller cortical cyst noted in the caudal pole.

Adrenal Glands

The right adrenal gland is normal in size (1.89 cm long x 0.90 cm at the cranial pole and 0.75 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 (1.71 cm long x 0.66 cm at the cranial pole and 0.61 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. An almost 6.0 cm x almost 8.0 cm, irregular, heterogeneous, primarily hyperechoic, almost nodular or lobulated caudal left liver mass is noted, beginning just caudal to the gallbladder. Visible vasculature and biliary tree appear normal without distension or congestion.

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.

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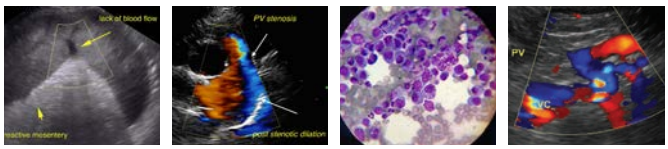

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Gastrointestinal

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.

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

- **Heterogeneous, almost nodular appearing liver mass** – Differentials include infiltrative neoplasia such as hepatocellular carcinoma versus sarcoma, round cell neoplasia, versus other. A benign change, as can be seen with nodular hyperplasia, fibrosis of an old hematoma or granuloma, myelolipoma, etc. is possible but considered less likely and can't be differentiated without tissue sampling.

SECONDARY FINDINGS

- **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.
- Age related kidney changes with multiple small bilateral cortical cysts
- Multiple urinary bladder cystoliths

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 mass could be considered if patient's coagulation status is appropriate, or alternatively, an exploratory laparotomy for planned liver lobectomy/mass removal and cystotomy to remove cystoliths could be considered. The mass is large in size. However, given the caudal location, full resectability, while it can't be guaranteed based on ultrasound alone, appears possible. If surgery is elected, a pre-surgical planning abdominal CT scan could be considered to potentially better predict resectability.

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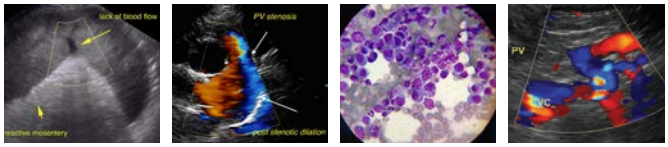

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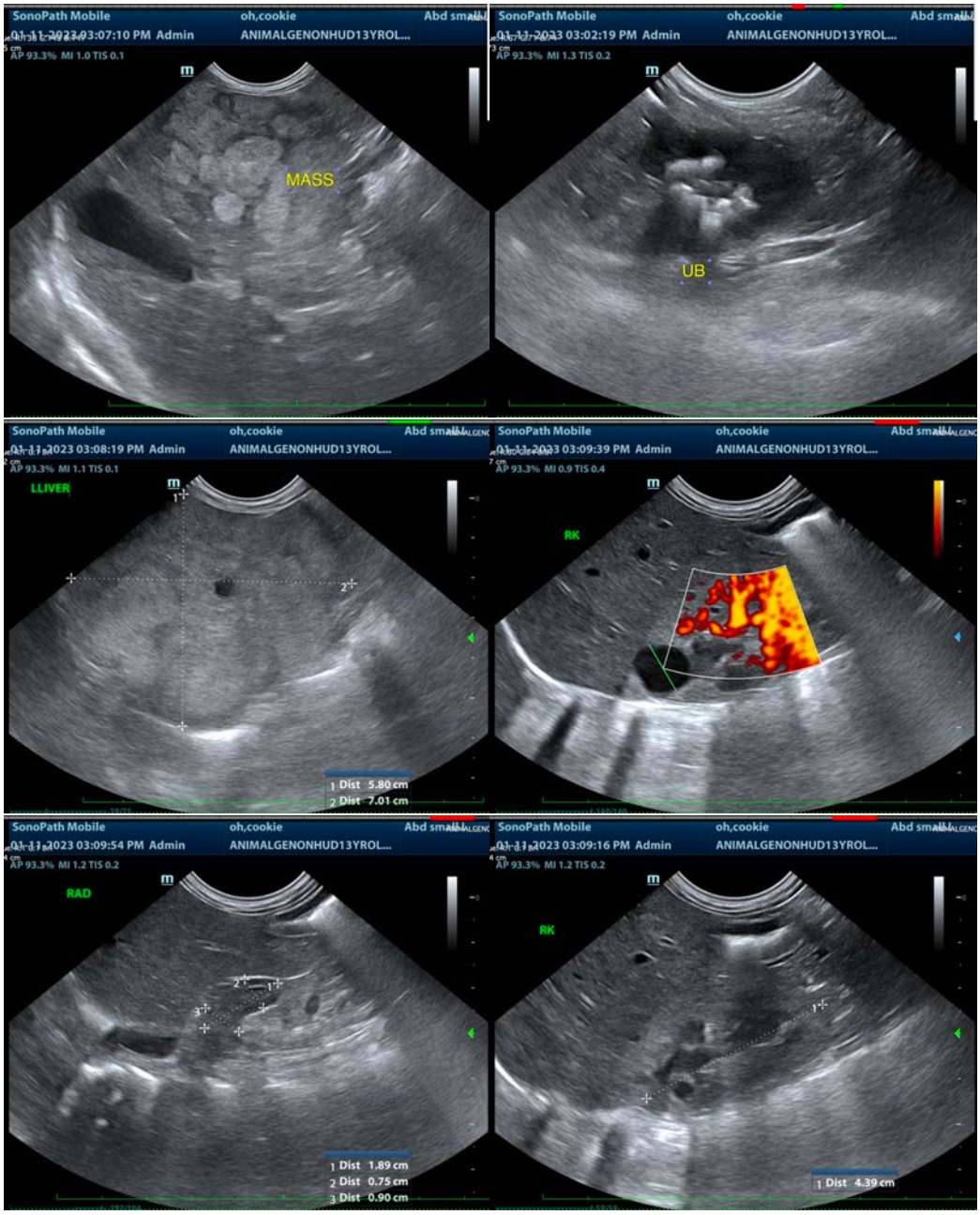

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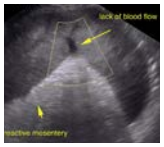
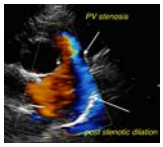
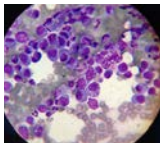
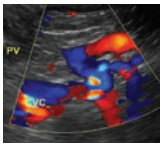

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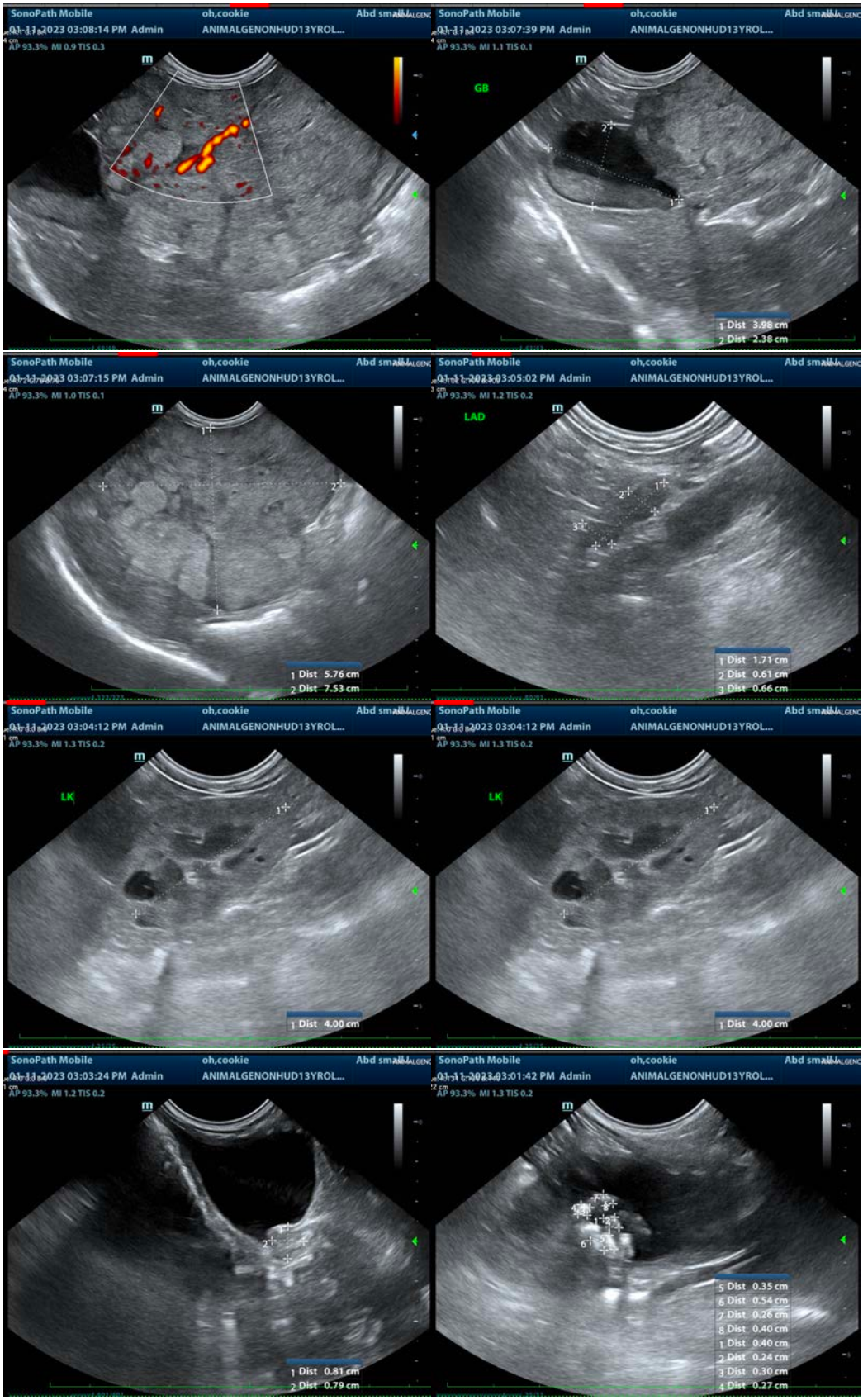

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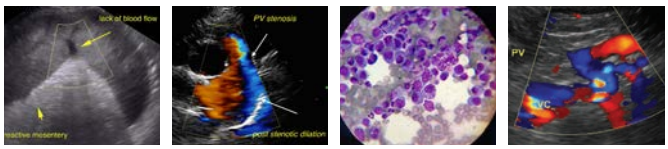

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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