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Clinical Sonography & Telecytology
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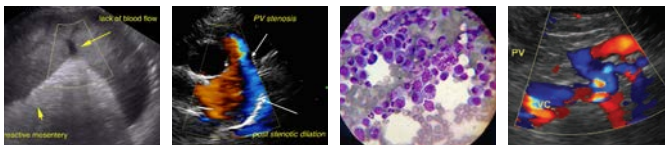


SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT
Carl Tillett

SPECIES
Canine

BREED
Border Collie X

SEX
Neutered Male

AGE
12 Years

WEIGHT
51 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Kelly Vazquez

HOSPITAL NAME
Animal General on the Hudson

REFERRING VET
Dr. Ng

INVOICE
43096

DATE
11/30/22

PRESENTING CLINICAL SIGNS

New grade 2/6 systolic murmur, prior DVM diagnosed with pancreatic mass. No current meds.

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.

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

The right kidney is normal in size (6.17 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. A cortical cyst is noted in the cranial pole, measuring 1.7 cm x 1.8 cm.

The left kidney is normal in size (5.6 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. Small cortical cysts are noted.

Adrenal Glands

The right adrenal gland is normal in size (1.8 cm at the cranial pole and 0.64 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. A discrete hyperechoic nodule measuring approximately 1.0 cm in diameter is noted along the middle of the right adrenal gland that does result in capsular expansion. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (1.93 cm long x 0.50 cm at the cranial pole and 0.56 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

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). Multifocal well-demarcated hyperechoic homogenous nodules are noted. A discrete round, heterogeneous, iso- to hyperechoic mass resulting in capsular bulge of the head of the spleen is noted, measuring approximately 3.5 cm in diameter. Splenic vasculature appears normal.

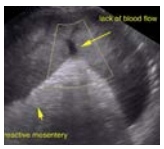
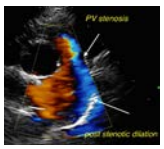
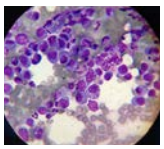
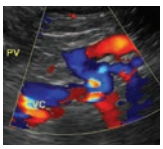
Liver

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 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 visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of

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obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. 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.

At the level of the right kidney, there is an intraluminal echogenic tissue density within the vena cava, concerning for thrombus versus potentially tumor invasion from the right adrenal gland nodule. However, tumor invasion is considered less likely.

PRIMARY FINDINGS

- **Hyperechoic adrenal nodule in the right 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.

- **Hyperechoic splenic nodules diffusely –** most consistent with benign myelolipomas. Other differentials such as fibrosis or calcification caused by old hematomas or infarcts, chronic inflammation, granulomatous disease or metastatic disease cannot be ruled out, but are considered less likely.

- **A larger, more heterogeneous splenic mass near the head of the spleen** – Differentials include both benign nodular hyperplasia, extramedullary hematopoiesis, etc. as well as infiltrative neoplasia including round cell neoplasia, sarcoma, etc. are possible and cannot be differentiated without tissue sampling.

- **Intraluminal vena cava density** – most concerning for a thrombus. However, tumor invasion from a most likely right adrenal mass (given the adrenal nodule described above) is possible, but considered less likely.

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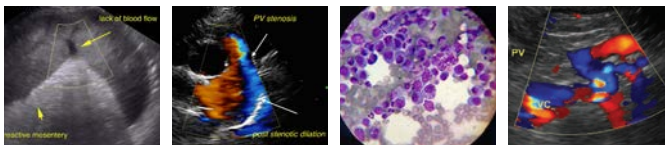

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SECONDARY FINDINGS

- **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.

- Bilateral renal cortical cysts

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is no ultrasonographically visible evidence of the reported pancreatic mass. However, a splenic mass is noted that could have been misinterpreted as a pancreatic mass. Recommendations are a fine needle aspirate of the splenic mass if patient's coagulation status is appropriate.

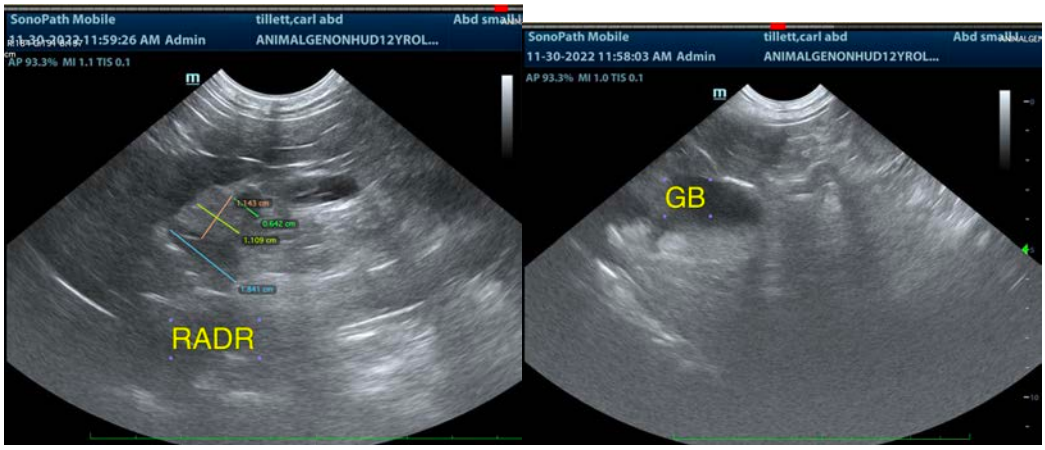
Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

Given the suspected thrombus, workup for hypercoagulable state is recommended, beginning with a blood pressure.

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, further testing in the form of a low-dose Dexamethasone suppression test is also recommended.

Ultimately, the adrenal gland changes described above are not consistent with vascular invasion from a tumor. However, an abdominal CT scan could be considered for more definitive information.



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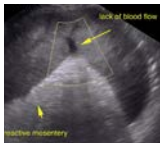
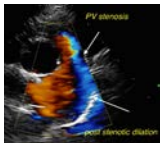
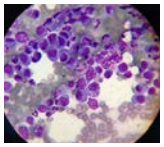
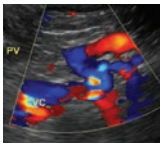

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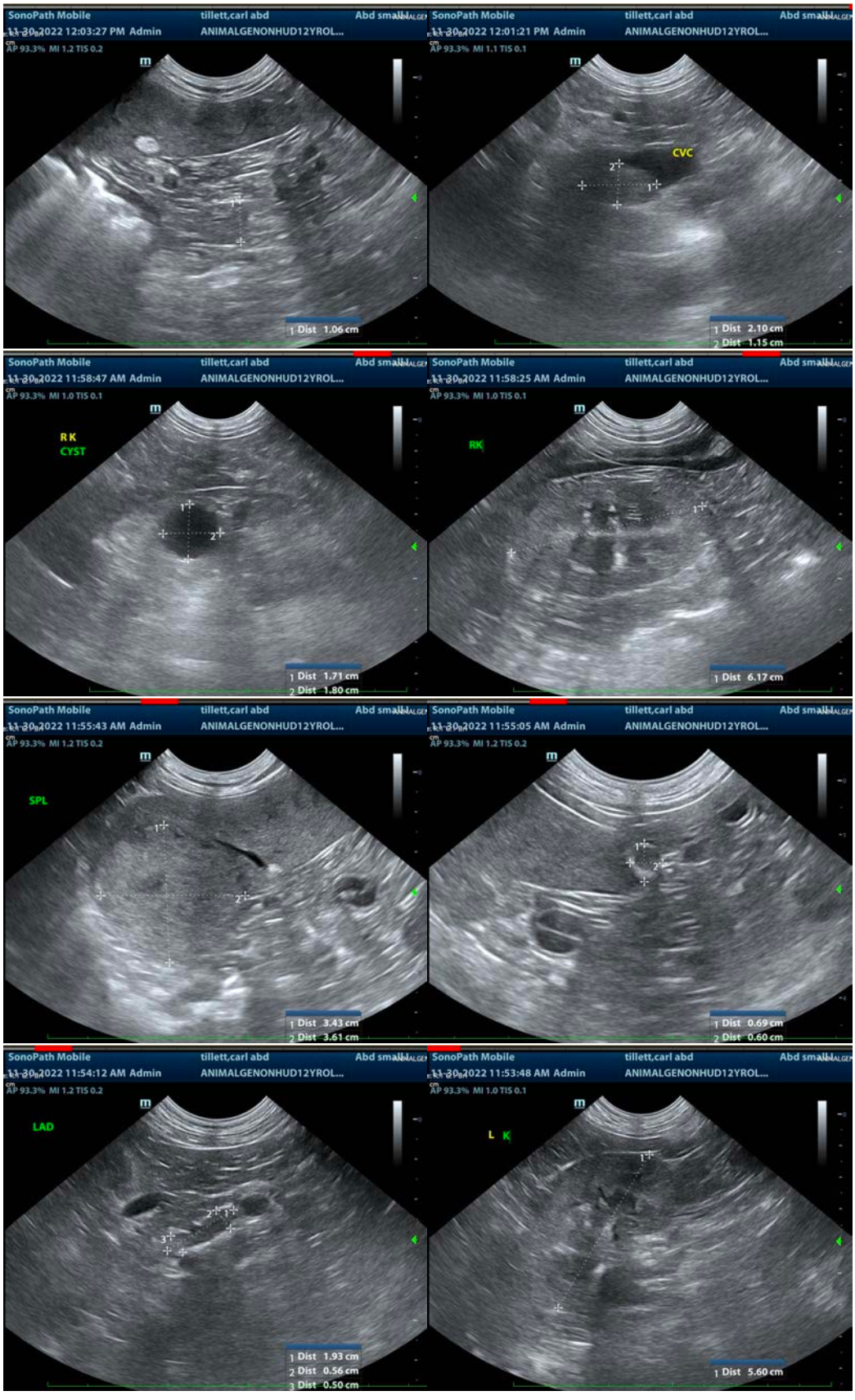

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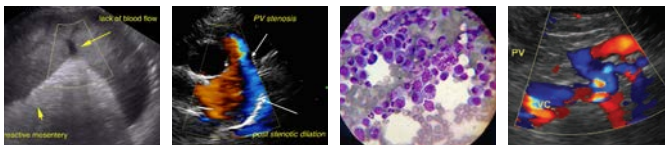

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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