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Clinical Sonography & Telecytology
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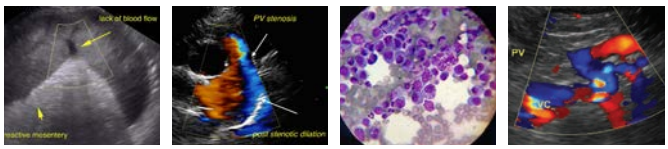

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Bear Maldonado

SPECIES
Canine

BREED
Yorkshire Terrier

SEX
Neutered Male

AGE
9 Years

WEIGHT
15.3 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Dr. Ferrer

HOSPITAL NAME
Paseos Vet Center

REFERRING VET
Dr. Ferrer

INVOICE
44333

DATE
1/18/23

PRESENTING CLINICAL SIGNS

Pt has a history of nasal discharges and coughing. Pt seems to be congested. Went to EC clinic and was given prednisone and Doxycycline and pt has improved some, but still has some congestion and cough. During today's exam, a newly auscultated heart murmur was noticed, and wanted to determine if the cough and changes are related to a cardiac condition. Pt also has been having an elevation of the liver enzyme ALP on previous BW prior to starting the medication prednisone from the EC clinic and also has been having some pain on abdominal palpation. O mentioned that usually drinks more water than normal. An echocardiogram was also done today.

Abnormal PE/Chem/CBC/UA Results: PE: grade 4/6 systolic HM on both sides was auscultated. Lungs sounded clear. Discomfort on right cranial abdomen. Mild pot belly appearance. Respiratory panel: Pending CBC: 1-13-23 MONO 1.91 (0.16 - 1.12), MPV 14.2 (8.7 - 13.2) CHEM: TP 8.5 (5.2 - 8.2). GLOB 5 (2.5 - 4.5), ALKP 427 (23 - 212)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. Shadowing cystoliths are noted at the level of the trigone, the largest of which measures 0.80 cm in diameter, or that area could represent an accumulation of smaller cystoliths measuring 0.80 cm in total size. No masses observed. The 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 (4.67 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. Very small non-obstructive areas of mineralization/nephroliths are noted.

The left kidney is normal in size (4.74 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. Very small non-obstructive areas of mineralization/nephroliths are noted.

Adrenal Glands

The right adrenal gland is normal in size (0.35 cm at the cranial pole and 0.49 cm at the caudal pole), shape and contour, with a slightly upper end of normal limits/plump appearance. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.48 cm at the cranial pole and 0.62 cm at the caudal pole), shape and contour, with a slightly upper end of normal limits/plump appearance. 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.

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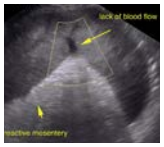
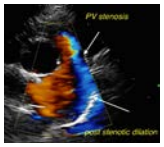
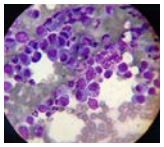
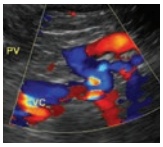

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Liver

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. 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 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 visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is 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.

Cranial and medial to the right kidney, there is an approximately 1.0-1.1 cm in diameter hypo- to anechoic structure with septations that appears to be a cavitated lymph node.

PRIMARY FINDINGS

- **Hyperechoic hepatomegaly -** This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible, but considered less likely.

- **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.

- **Cranial abdominal, suspect renal cavitated lymph node** – This could represent a reactive lymph node secondary to chronic kidney infections versus other. However, infiltrative neoplasia cannot be ruled out without tissue sampling.

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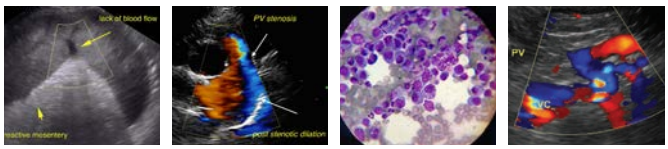

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SECONDARY FINDINGS

- Small, non-obstructive nephroliths bilaterally
- Urinary bladder debris with cystoliths noted

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The appearance of this patient's adrenal glands, liver, and gallbladder could all suggest underlying hyperadrenocorticism, especially given his history of polyuria/polydipsia, increased ALP, etc. Unfortunately, testing cannot be pursued while he is being given steroids for his respiratory disease. In the meantime, recommendations include:

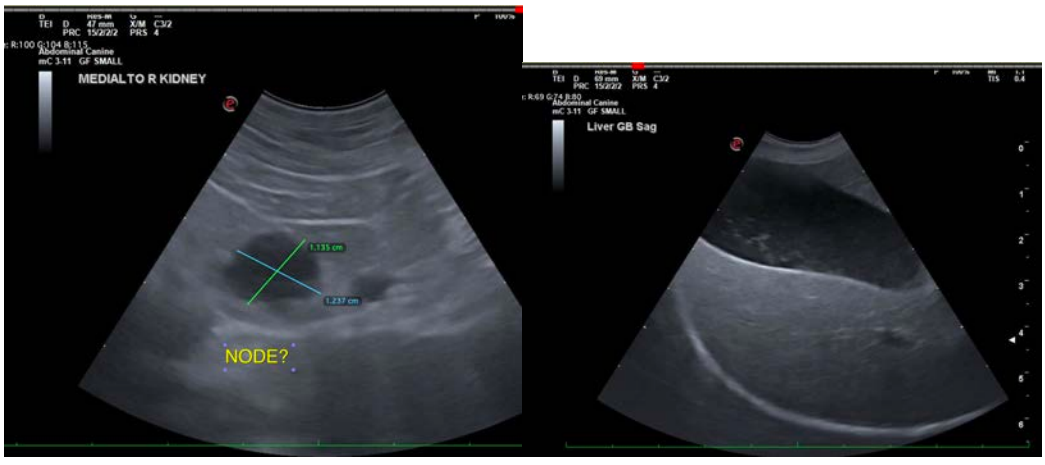
Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

A blood pressure is recommended if not recently evaluated.

A fine needle aspirate of the enlarged lymph node described above could be considered if it can safely be reached and patient's coagulation status is appropriate. Alternatively, secondary urinary tract infections/possible chronic pyelonephritis could be managed medically, and the lymph node could be monitored ultrasonographically for improvement/progression, etc. prior to more invasive interventions.

Upon resolution of this patient's respiratory disease and discontinuation of steroid therapy, if clinical signs of hyperadrenocorticism including the PU/PD and the increased ALP, etc. persist, then future recommendations would include testing in the form of a low-dose Dexamethasone suppression test.

There is not a definitive source of abdominal pain appreciated (i.e., no evidence of inflammation) surrounding the cavitated lymph node, etc. This does not rule out the lymph node as a source of pain. However, additional recommendations include further evaluation of possible orthopedic and/or neurologic sources of referred abdominal pain.



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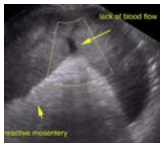
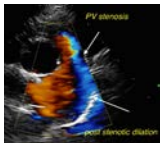
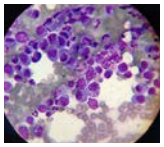
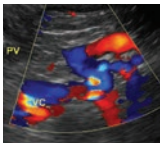

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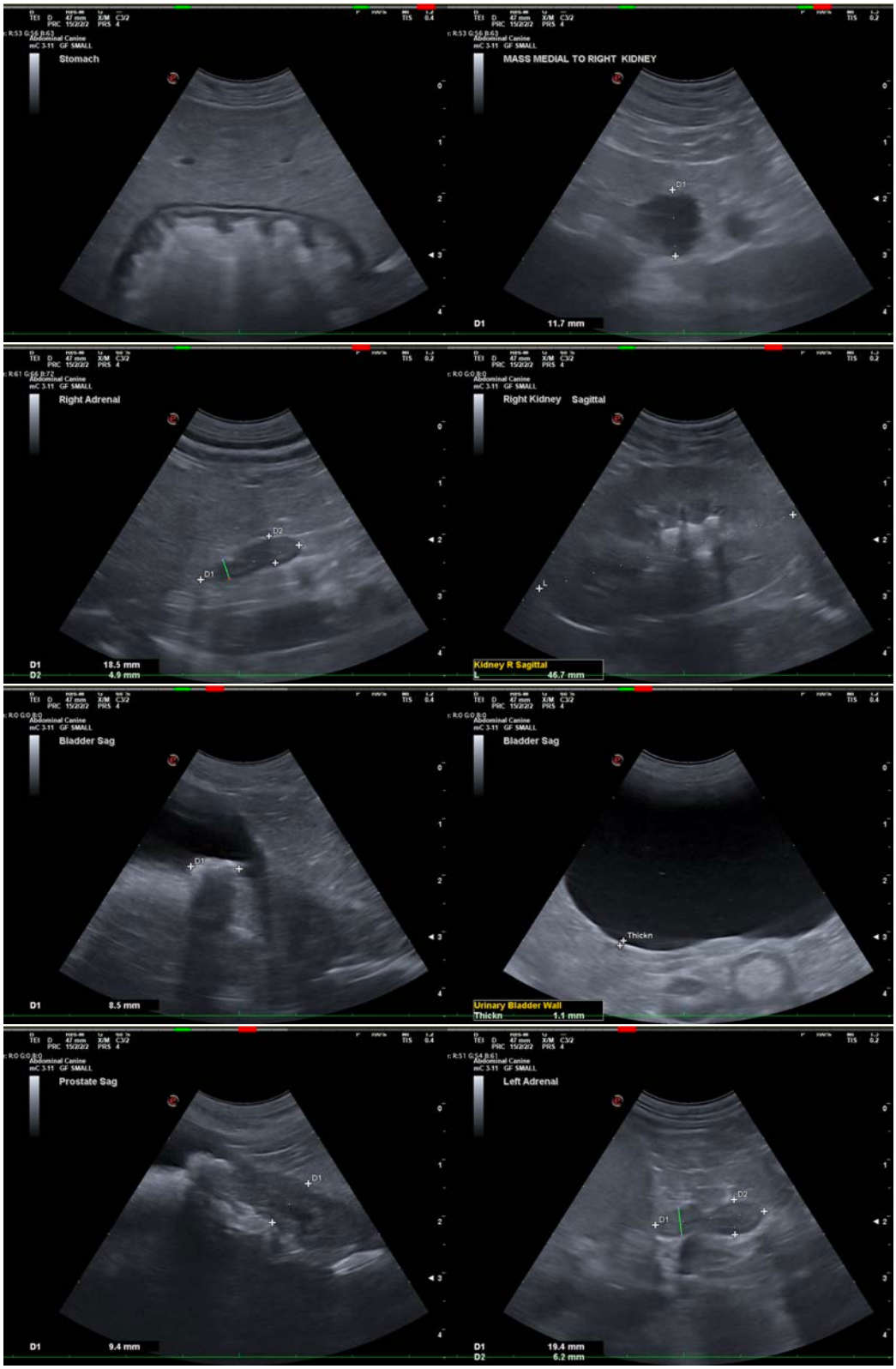

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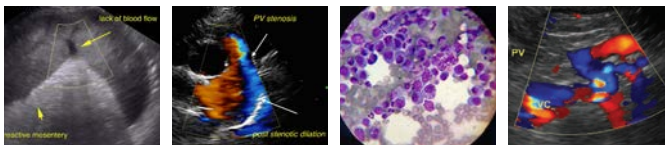

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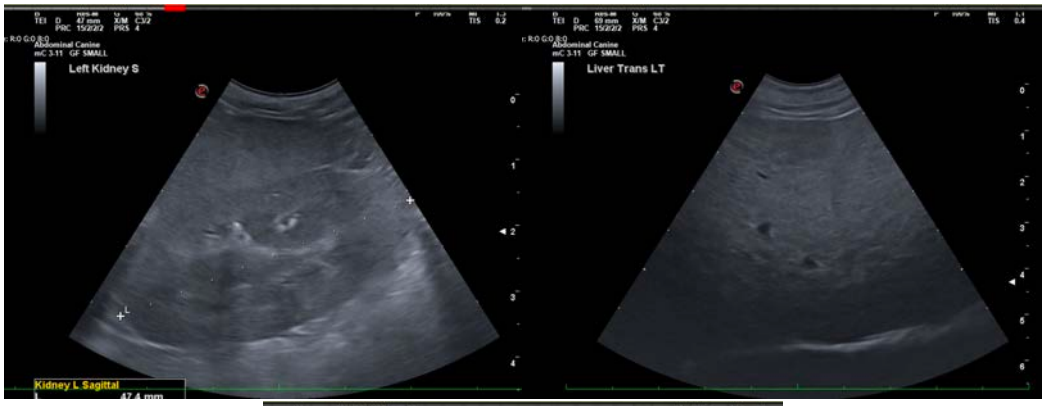

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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