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Clinical Sonography & Telecytology
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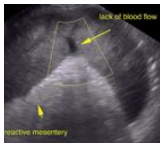
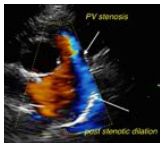
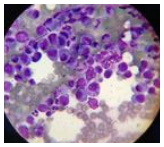
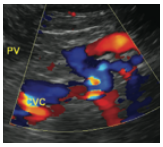

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Kayla Arthurs

SPECIES
Canine

BREED
Miniature Pinscher

SEX
Spayed female

AGE
14 years

WEIGHT
5.4 lbs

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Ashley Whitesell

HOSPITAL NAME
Dickson AC

REFERRING VET
Dr. Levine

INVOICE
42912

DATE
2/21/23

PRESENTING CLINICAL SIGNS

History: Weight loss over past year, not on dog food eats chicken or hamburger
Abnormal PE/Chem/CBC/UA Results: Alk phos 168 BUN 51 WBC 24.6

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately 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 bilaterally small, irregular and diffusely echogenic with decreased corticomedullary distinction and poor visualization of internal architecture. Multiple cortical cysts were noted bilaterally as well as small, non-obstructive nephroliths bilaterally. Some of the cysts in the left kidney appear to contain slightly more echogenic contents with a slightly, more irregular appearance then is typically observed with cysts. Additionally, mild pyelectasia is noted in the left kidney. The left kidney measured 2.9 cm and the right kidney measured 3.2 cm.

Adrenal Glands

The adrenal gland is enlarged (0.61 cm at the cranial pole and 0.93 cm at the caudal pole) with mild heterogenous parenchymal changes. Swollen capsular expansion is noted without evident capsular escape or vascular invasion.

Right adrenal gland is normal in size (0.95 cm at cranial pole and 0.53 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. 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). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

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. Some mineral/sand debris with acoustic shadowing, small cholecystoliths cannot be ruled out. 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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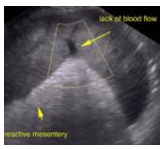
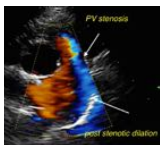
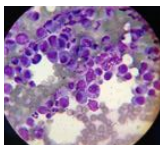
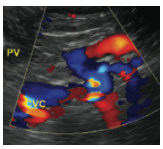

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Gastrointestinal

The visible stomach wall is normal in thickness 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. 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 observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. 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.

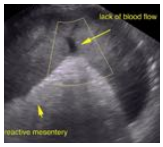
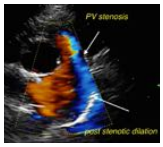
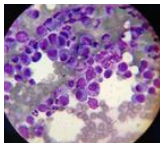
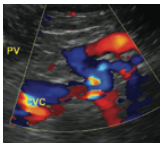
ULTRASONOGRAPHIC FINDINGS

Primary Findings

1. **Chronic kidney disease** with bilateral cortical cysts and small, non-obstructive nephroliths. In the left kidney some of the cysts appear more complicated and more significant infected cysts, abscesses or even infiltrative neoplasia while considered less likely cannot be ruled out. **Pyelectasia –** Differentials for pyelectasia include pyelonephritis, diuresis, congenital malformation or ureteral or lower urinary tract obstruction.
2. **Left adrenal mass –** consistent with adenoma or possibly hyperplasia. Early pheochromocytoma cannot be ruled out. Interpret in combination with clinical signs of hyperadrenocorticism or other adrenal disease.
3. **Gallbladder debris (canine) -** 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.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The appearance of the kidneys is likely consistent with chronic kidney disease combined with age related remodeling and cysts. However, complicated cysts, abscesses on the left side or even less likely infiltrative neoplasia cannot be ruled out. Further evaluation of kidney health is recommended beginning with:

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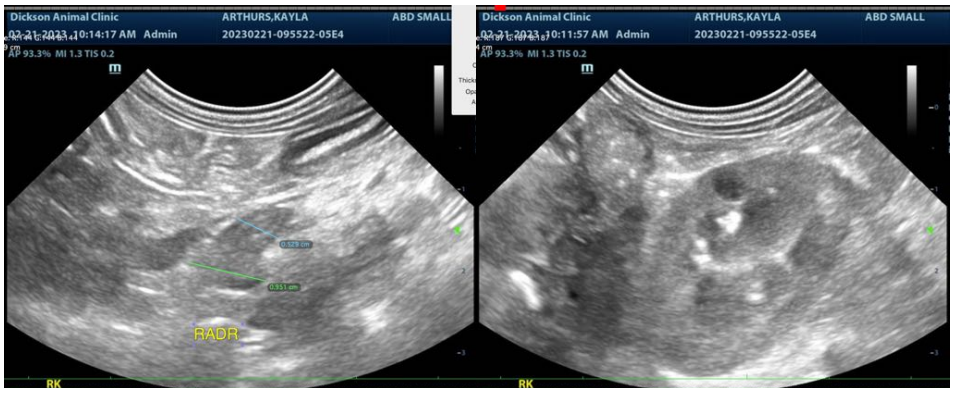
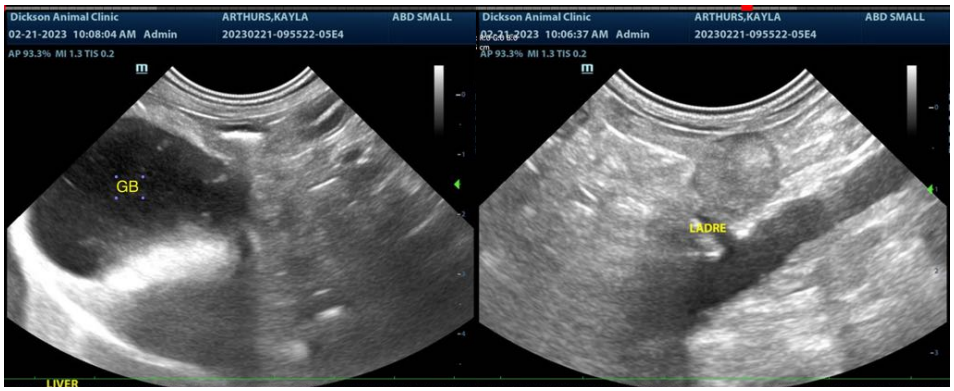
1. Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.
2. Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.
3. Given the patient's reported weight loss a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.
4. Pending results a FNA of the left kidney, cysts/nodules can be considered if the patient's coagulation status is appropriate or if a perfectly reasonable, less aggressive approach is elected then management of clinical signs supportively and monitoring of the kidney can be considered versus a more invasive aspirate.
5. Additionally, further investigation of the adrenal mass in the form of a low-dose Dexamethasone suppression test +/- urine catecholamine testing could be considered. However, adrenal disease is not typically associated with weight loss unless there is a pituitary macroadenoma, which is less common. Having said that blood pressure is recommended if not recently evaluated.





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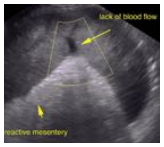
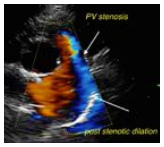
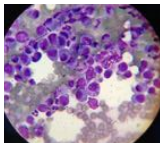
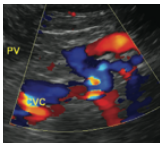

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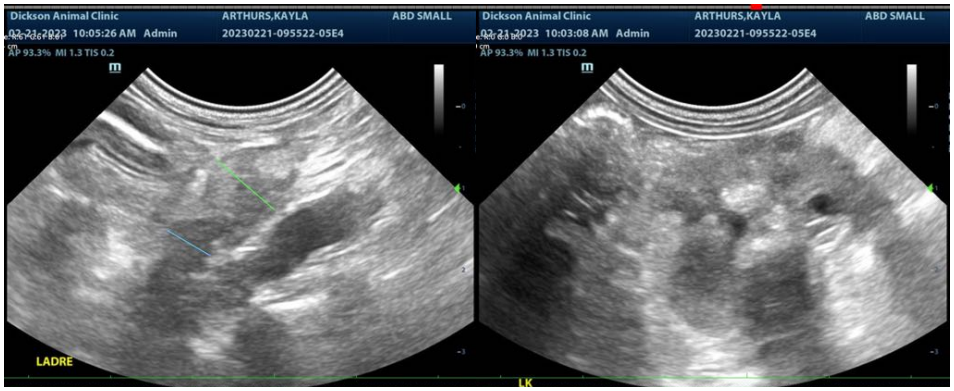

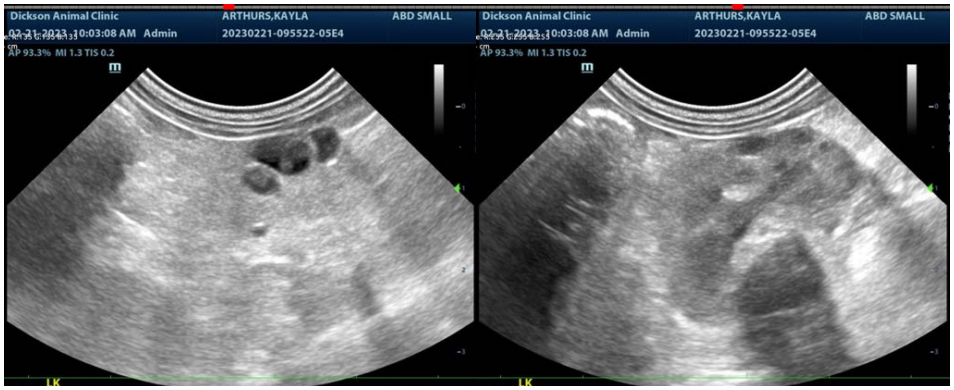

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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