



**PATIENT PRESENTING CLINICAL SIGNS**

**PATIENT** Shasta Graham  
**SPECIES** Canine  
**BREED** Lab X  
**SEX** Spayed Female  
**AGE** 12 Weeks  
**WEIGHT** 66.8 Pounds

Chronic hx of PU/PD for the last 1.5 months. Eating/drinking OK UTI diagnosed on initial labwork 7/19/22 - persistent despite clavamox x 10 days Urine culture = E. coli - sensitive to amoxi. - no improvement in symptoms despite being on clavamox; Changed to enrofloxacin x 7 days. UTI cleared (confirmed via urine culture 8/19/22)

Abnormal PE/Chem/CBC/UA Results: Moderate cachexia dorsal epaxials; mildly pendulous abdomen, dental disease, otherwise NSF on PE. Initial BW: CBC: PLT (401) Chem: BUN (25), Crea (1.6), Phos (4.0), Chol (325), Trig (399) T4: (1.4) U/A: USG (1.007), PH (7.0), WBC's, RBC's, Rods (>100). Recheck labs/urine 10 days after clavamox Rx: CBC: ur Chem: Crea (1.8), Phos (3.5), Chol (325) U/A: USG (1.008), rods (51-100), 1+ blood- T4: (2.0)

**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 (0.50 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 or infarcts observed. The left kidney measures 5.74 cm. The right kidney measures 5.8 cm. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted in both kidneys.

**Adrenal Glands**

The right adrenal gland is normal in size (2.2 cm long x 0.57 cm at the cranial pole and 0.33 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 (2.7 cm long x 0.39 cm at the cranial pole and 0.63 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. 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.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Jessica Bailes

**HOSPITAL NAME**

All Creatures Great & Small - Corvallis

**REFERRING VET**

Dr. Beth Marszewski

**INVOICE**

40787

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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.

**SPECIES**

Canine

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.

**BREED**

Lab X

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

**SEX**

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**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.

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**Free Abdomen**

There is no evidence of free peritoneal effusion noted in these images.

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There is no apparent lymphadenopathy noted in these images.

**ULTRASONOGRAPHIC 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.
- **Non-obstructive dystrophic mineralization** bilaterally in the kidneys
- **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.
- **Hyperechoic splenic nodules** – 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.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There are no ultrasonographically visible explanations for this patient's PU/PD. If the clinical signs have resolved since the reported urinary tract infection has cleared, then no follow up is necessary, unless clinical signs return. However, if the patient is still PU/PD and/or continues to get urinary tract infections, testing for hyperadrenocorticism could be considered in the form of a low-dose Dexamethasone suppression test, as normal appearing adrenal glands do not rule out hyperadrenocorticism. Testing for Leptospirosis is also indicated if PU/PD returns.

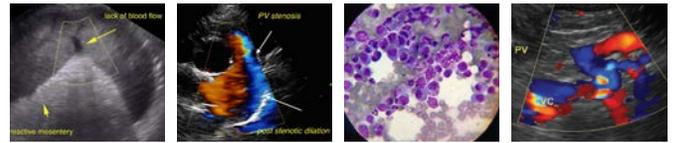
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If a urinary tract infection returns, recommendations are to treat it as a complicated urinary tract infection, which means antibiotics based on culture and sensitivity results for 4-6 weeks with a 2<sup>nd</sup> culture a week to 10 days after beginning antibiotics, and a final 3<sup>rd</sup> culture a week to 10 days after



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finishing antibiotics to be sure the infection has fully cleared.

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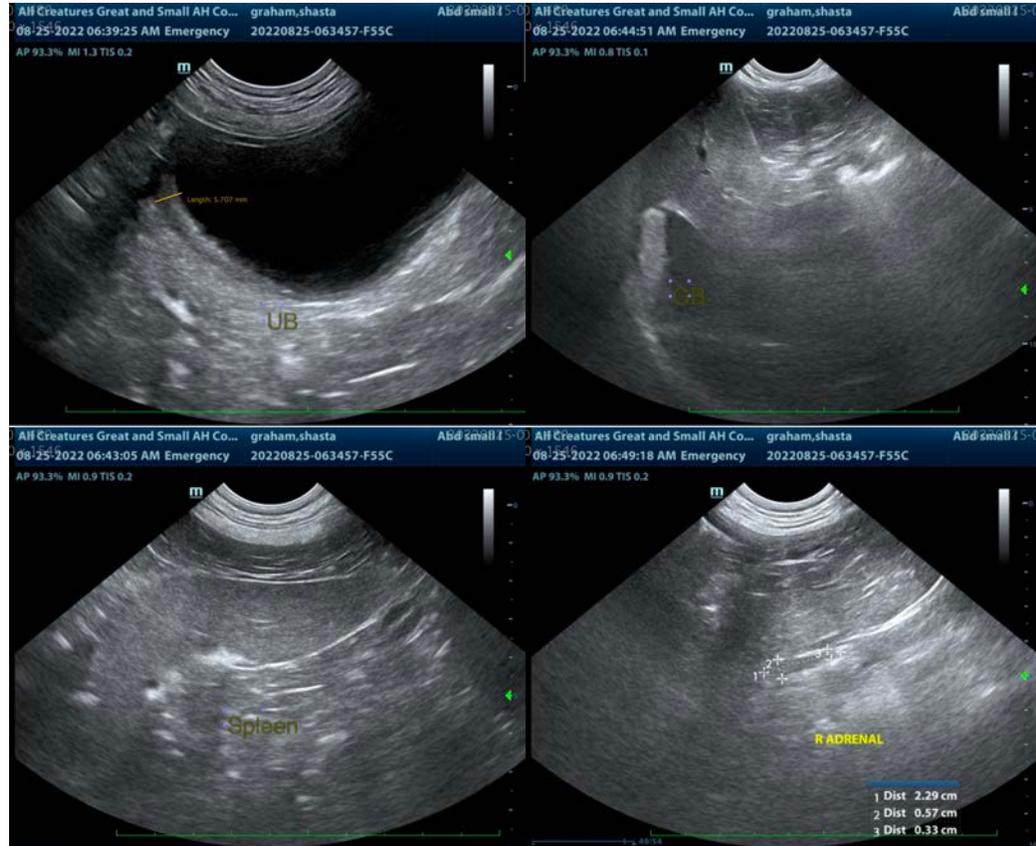
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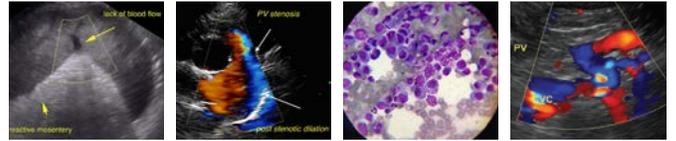
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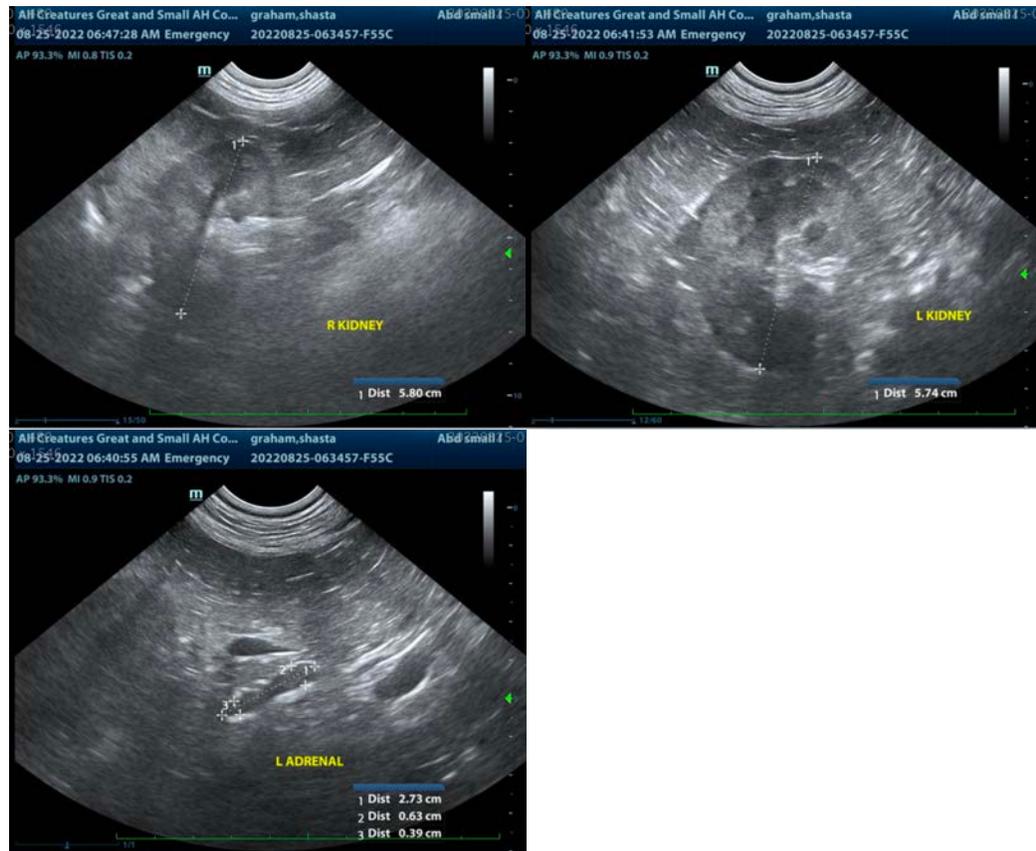
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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