



**PATIENT**

Addy Lane Doyle

**SPECIES**

Canine

**BREED**

Yorkshire Terrier

**SEX**

Spayed Female

**AGE**

12 Years

**WEIGHT**

6.5 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV

DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Jack Reese

**HOSPITAL NAME**

Willow Run VC

**REFERRING VET**

Dr. Jack Reese

**INVOICE**

38558

**DATE**

6/8/22

**PRESENTING CLINICAL SIGNS**

Owner reports non-specific changes at home Increased appetite, but seems lethargic and not herself at times

Abnormal PE/Chem/CBC/UA Results: Heart murmur - 3/6 Theophylline for lower airway disease Albumin 2.6 (2.7-3.9) Significant proteinuria, UPC 6.3 on cystocentesis sample

**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.

The right kidney is normal in size (3.6 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 or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted, primarily in the diverticular of the kidney. There is a moderate amount of hyperechoic medullary debris noted.

The left kidney is normal in size (3.3 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 or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted, primarily in the diverticular of the kidney. There is a moderate amount of hyperechoic medullary debris noted.

**Adrenal Glands**

The right adrenal gland is normal in size (0.42 cm at the cranial pole and 0.43 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 (0.39 cm at the cranial pole and 0.37 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**Spleen**

Spleen is subjectively enlarged in size with rounded margins but intact capsule. Parenchyma is homogeneously coarse/mottled in echotexture and normal to hypoechoic in echogenicity. 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. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

GB is moderately distended with anechoic bile and gravity dependent echogenic sediment. There is a mineralized cholecystolith with shadow also noted. 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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**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 peritoneal effusion. There is no apparent lymphadenopathy.

**PRIMARY FINDINGS**

- Non-obstructive nephrolithiasis and hyperechoic medullary debris in the kidneys – consistent with reported proteinuria.
- Coarse splenomegaly – can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered.

**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.
- Cholecystolith

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Recommendations include:

- Blood pressure and testing for Leptospirosis, if not recently evaluated.
- Given patient breed, a gastrointestinal malabsorption panel including TLI, PLI, folate and cobalamin to Texas A&M GI laboratory, in case there is a gastrointestinal component to the hyperalbuminemia.
- In the meantime, medical management of protein losing nephropathy with a low protein renal diet (if tolerated), ACE inhibitors +/- angiotensin receptor blockers, anti-thrombotics such as



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low dose aspirin or clopidogrel, and fatty acid supplementation is recommended.

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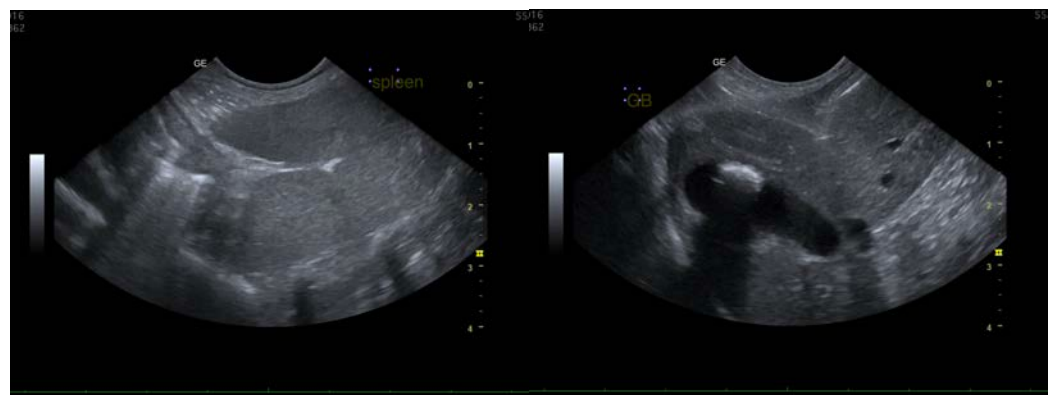
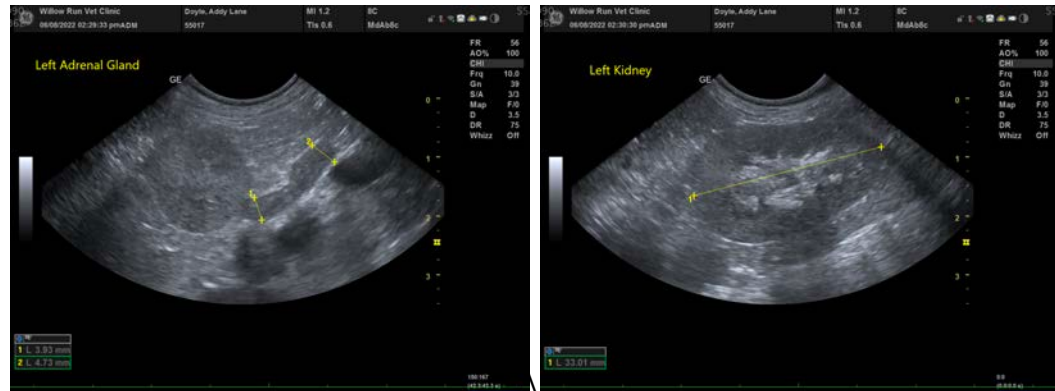
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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