



**PATIENT PRESENTING CLINICAL SIGNS**

Lulu Sherman History: Pollakiuria, hematuria, emerging UTI with abnormal transitional cells

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Canine Urinary System**

Canine The urinary bladder, trigone and cystourethral junction exhibited normal thickness and tone. The proximal urethra exhibited mild thickening yet symmetrical contour, measuring 0.59 cm – 0.60 cm width to a depth of approximately 2.0 cm. Anechoic urine was present in the lumen with no evidence of calculi or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

**BREED**

West Highland White Terrier

**SEX**

FS

**AGE**

13 years

**WEIGHT**

17.3 Pounds

Aortic trifurcation was normal.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pyelectasia or retroperitoneal inflammation. The left kidney measured 4.8 cm in length. The right kidney measured 5.1 cm in length. Pinpoint areas of medullary mineral were present.

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.47 cm width at the caudal pole and 0.64 cm width at the cranial pole.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.62 cm width at the caudal pole and 0.65 cm width at the cranial pole.

**INTERPRETED BY**

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

**Spleen**

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. Areas of hyperechoic parenchyma were noted adjacent to the medial splenic hilus as well as hyperechoic asymmetrical medial capsule contour. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.

**IMAGING PERFORMED BY**

Rebekah Jakum, CVT ARDMS/RVT

**HOSPITAL NAME**

Maple Hills VH

**Liver**

**REFERRING VET**

Dr. Eckman

The liver exhibited subjective mild enlargement. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion.

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Moderate non-dependent mildly inspissated yet non-organized gallbladder debris was present. The gallbladder walls were sonographically unremarkable without evidence of inflammation. No evidence of peripheral gallbladder inflammation.

**DATE**

11.29.2021

**Gastrointestinal**



**PATIENT**

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

Lulu Sherman

**SPECIES**

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Canine

Normal visible colon wall layers were present with apparent formed feces in lumen.

**Pancreas**

**BREED**

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

West Highland White Terrier

**SEX**

**Free Abdomen**

FS

No overt lymphadenopathy or peritoneal effusion was present.

**AGE**

**ULTRASONOGRAPHIC FINDINGS**

13 years

**Primary Findings**

**WEIGHT**

17.3 Pounds

- Sonographically unremarkable urinary bladder
- Subjective mild yet symmetrical proximal urethral thickening
- Mild age-related kidneys with pinpoint medullary mineral-no signs of pyelonephritis

**Secondary Findings**

**INTERPRETED BY**

- Mild vacuolar hepatopathy pattern
- Moderate gallbladder debris (non-mucocele)
- Probable splenic myelolipomas and medial capsule fibrosis

R. McKenzie Daniel,  
 DVM, DABVP  
 (Canine and Feline)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**IMAGING PERFORMED BY**

The subjective mildly thickened proximal urethra was non-specific yet may suggest urethritis. No overt evidence of neoplastic urethral criteria was present, yet the possibility of emerging urethral neoplasia could not be definitively excluded. A screening BRAF assay may be considered given the presence of atypical transitional epithelial cells. Recheck urine culture and sensitivity on sterile urine sample suggested. If positive, and ideally based on culture and sensitivity results, a higher dose and shorter frequency antibiotic regimen i.e., enrofloxacin or clavamox at 20 mg per kg, PO SID, for 3-4 days may prove more effective. Additional conservative therapy such as anti-inflammatory for potential urethritis may be considered. Hepatosupportive medications, including ursodiol are suggested if evidence of cholestasis. Sonographic reassessment of the proximal urethra in 4 weeks recommended.

Rebekah Jakum, CVT  
 ARDMS/RVT

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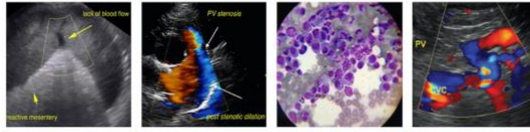
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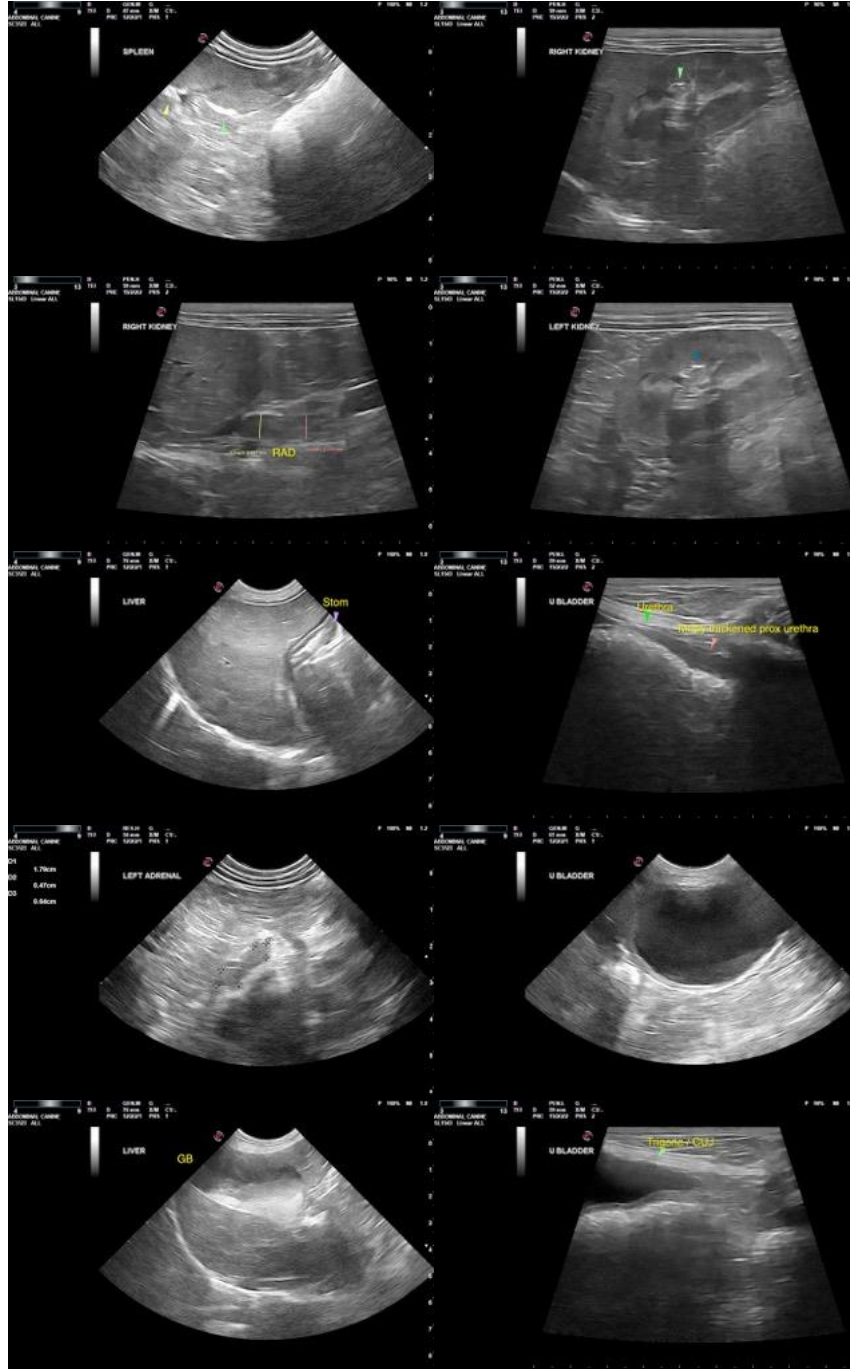
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**R. McKenzie Daniel, DVM, DABVP (Canine/Feline Practice)**



**PATIENT** [mac.daniel@sonopath.com](mailto:mac.daniel@sonopath.com)

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Canine

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