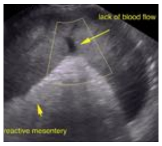

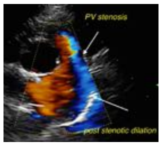

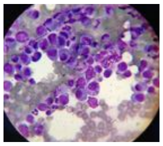

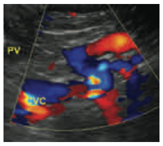

PATIENT

Gracie Patterson

SPECIES

Canine

BREED

Chihuahua

SEX

Spayed Female

AGE

9 years

WEIGHT

4.13 kg

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Diehl

HOSPITAL NAME

StatSound

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31449

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7/3/22

PRESENTING CLINICAL SIGNS

Goal for submission is to evaluate cause of elevated liver values and lipids (in case not prednisolone-related alone), decide on any warranted liver/gall bladder medications and make a plan for treating her current UTI and helping to prevent future ones. Gracie's parent pursues whatever is recommended, so thank you for your recommendations. History: Recent hematuria with most recent urine culture growing E. coli and Enterococcus (chronic Enterococcus bacteriuria but only shows signs when E. coli also present; does not mount pyuria/hematuria response with some of her past UTIs but does show clinical signs). Elevated liver values and lipids (chronic and moderate) while on chronic management with prednisone (since June 2020) and gabapentin for myelopathy and paraparesis (gliosis and FCE previously diagnosed by specialty center, clinically declines abruptly when prednisone tapered, so suspect this will be required long-term). Gall bladder sludge and urinary bladder sludge and mural thickening were noted at Urgent Care when she was evaluated for the hematuria. Several UTIs in 2021, 2022. In past treated with Convenia alone, most recently treated with doxycycline. It is suspected that she has some urine retention/bladder atony as there is dribbling/leakage even after voiding with a moderate sized bladder remaining after micturition (easily expressed) so there might be overflow incontinence.
Abnormal PE/Chem/CBC/UA Results: Ambulatory moderate paraparesis, KCS (chronic, managed), slightly pot-bellied, BCS 7/9. 4/18/21: ALT 268, AKLP 1823, AST WNL, GGT 44, chol 610, trigl 742 (fasted), platelets 429k/uL, PMNs 13k/uL. Urine by cysto: USG 1.023, pH 8.0, 3+ proteinuria, WBC 0-1/hpf, NO RBC, cocci and rods noted. Urine Antech: Enterococcus alone >100k CFU/mL. 5/2/22 ALT 535, ALKP 2317, AST 87, GGT 53, chol 631, tribl 775 (fasted), 1+ hemolysis, 1+ lipemia. CBC WNL. 5/23/22: Urine cysto: 3+ protein, cocci present, no rods noted, USG 1.026, pH 7.0, NO WBC, NO RBC. Culture Antech: E. coli 10k-50k CFU/mL, Enterococcus >100k CFU/mL, Additional prior UTIs/bacteriuria: 3/28/22 Enterococcus alone >100k CFU/mL, not clinical. 2/24/22 Enterococcus alone >100k CFU/mL, not clinical. 1/3/22 E. coli and Enterococcus, clinical. 10/9/21: E. coli and Enterococcus clinical. July 2021, negative culture, 2+ protein.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

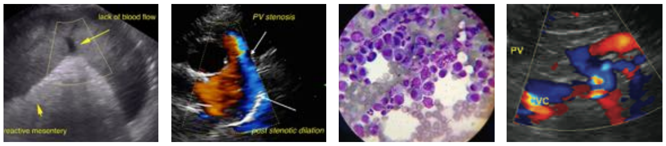
Urinary System

The **urinary bladder** revealed apical ventral and apical dorsal wall thickening. The pelvic urethra was imaged 3.0 cm beyond the cystourethral junction and appeared normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Slight pinpoint mineralization was noted in both kidneys. The left kidney measured 4.16 cm. The right kidney measured 5.2 cm.

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 0.36 cm at the cranial pole and 0.41 cm caudal pole and 1.5 cm in length. The right adrenal gland measured 1.91 x 0.64 cm at the cranial pole and 0.49 cm at the caudal pole.



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Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. A lymph node cyst is noted and is likely deriving from the epigastric lymph node and measured 1.18 cm just cranial to the pylorus. This is not pathological.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

ULTRASONOGRAPHIC FINDINGS

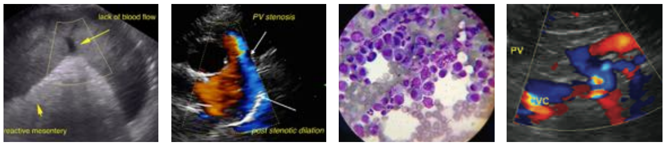
Chronic cystitis bladder pattern with debris.

Age related renal changes.

Structurally insignificant reactive hepatopathy or low-grade inflammatory hepatopathy.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Full urinary work-up is warranted. If any evidence of UTI is present then 4 week antibiotic therapy is recommended based on culture results. This is likely E Coli causing the primary issues. The liver enzyme elevation is likely non-specific reactive hepatopathy. FNA can be considered for further definition.



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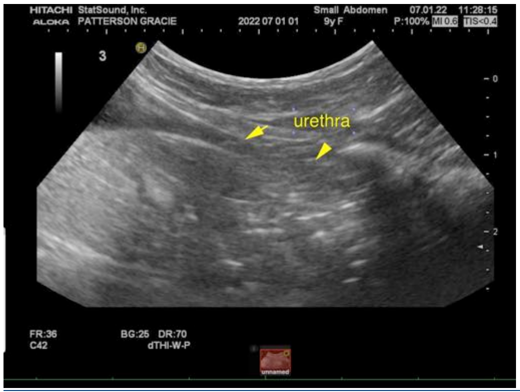

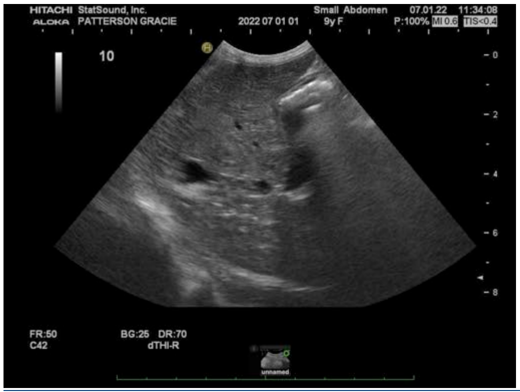

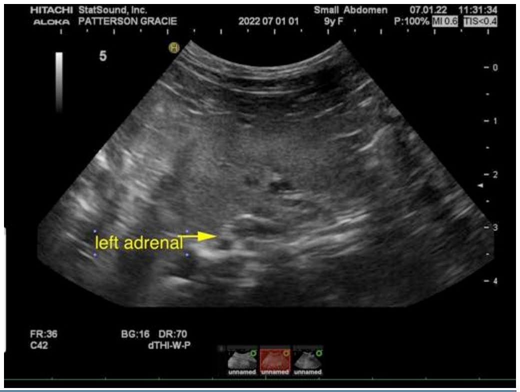

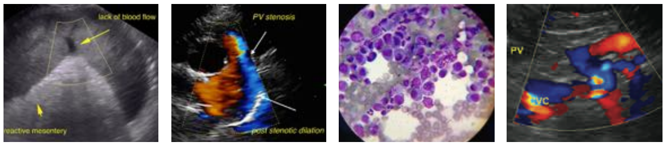

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com