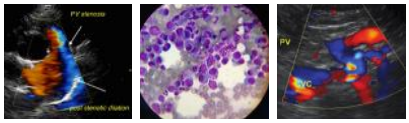
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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DATE

5/24/22

PATIENT

Maggie Tyler

SPECIES

Canine

BREED

West Highland Terrier

SEX

Spayed Female

AGE

3/19/12

WEIGHT

19.2

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Jacksonville VH

REFERRING VET

Dr. Burk

INVOICE

37902

PRESENTING CLINICAL SIGNS

Frequent urination, blood in urine on and off for 3 weeks. Dry eye, dermatitis, lip fold, chest, shoulder, paws. 4/14/22 exam for frequent urination, eye and skin problems. U/A (see lab findings), skin cytology, convenia injection, eye medications. Improved for about a week
then frequent urinations again, improved again, then frequent urination and blood in urine.

Current Medications: Vetoryl 5mg BID, Apoquel 4mg SID, Optimmune OU BID, Convenia 68mg SQ 4/14/22, Clavamox 125mg every 12 hours for 10 days 4/28/22.
Lab Results: U/A voided 4/14/22: sg 1.018, pH 7.0, prot 500, RBC >50, WBC >50, rods, cocci, nonsquamous epithelial 1-2/ hpf. 4/28/22 sg 1.028, pH 7.0, prot 500, WBC > 50, RBC >50, epithelial cells in clumps on some slides, no bacteria seen
Radiographs: No apparent calculi in urinary tract. Intestine and colon overlap bladder.
Date of Previous IntraPet Ultrasound: 8/1/19 and 9/21/21. See attached.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is minimally distended with urine. The Bladder wall appears diffusely severely thickened and irregular with a measurement near the apex and 1.14 cm. Evaluation of the bladder is very difficult due to lack of urine distention and contrast. No focal abnormalities are visualized in the area of the trigone, ureteral papillae or proximal urethra. Findings are most consistent with severe diffuse bacterial cystitis, but underlying neoplasia needs to be considered due to the chronicity.

The left kidney has a normal shape and size (4.62 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.4 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.60 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.51 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver
The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is mildly heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal
The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas
The pancreas is prominent and mottled compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen
Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

PRIMARY FINDINGS

- Diffusely thickened irregular urinary bladder wall – Evaluation of the urinary bladder is very difficult due to lack of urine distention. These findings would be most consistent with bacterial cystitis, but given the chronicity and severity of the symptoms, an underlying neoplastic process cannot be definitively ruled out.

- Mildly heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. Correlate with bloodwork findings. If there are no liver enzyme elevations, this could be consistent with remodeling.

SECONDARY FINDINGS

- Moderate gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

- Prominent, mottled pancreas – The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis. These changes have been persistent for all of the previous ultrasounds, and no significant changes are noted.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

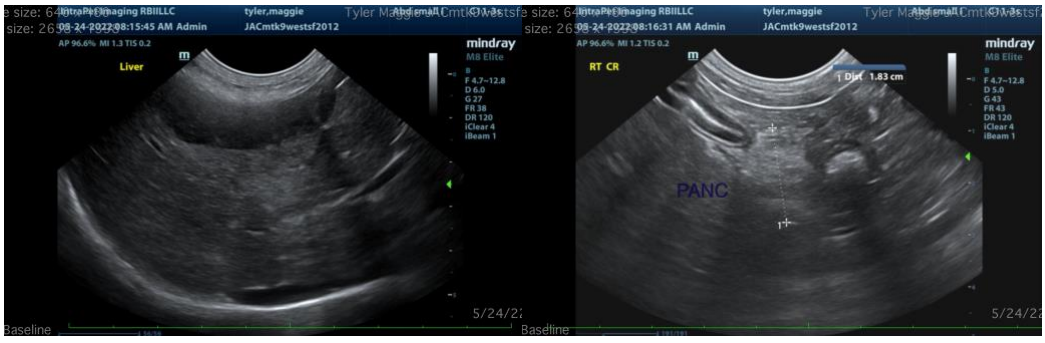
The urinary bladder wall is diffusely thickened and irregular. There is minimal to no lumen visualized due to lack of urine distention. Further evaluation will be needed to try to differentiate between a severe bacterial cystitis, underlying neoplastic change, fibrosis, etc.

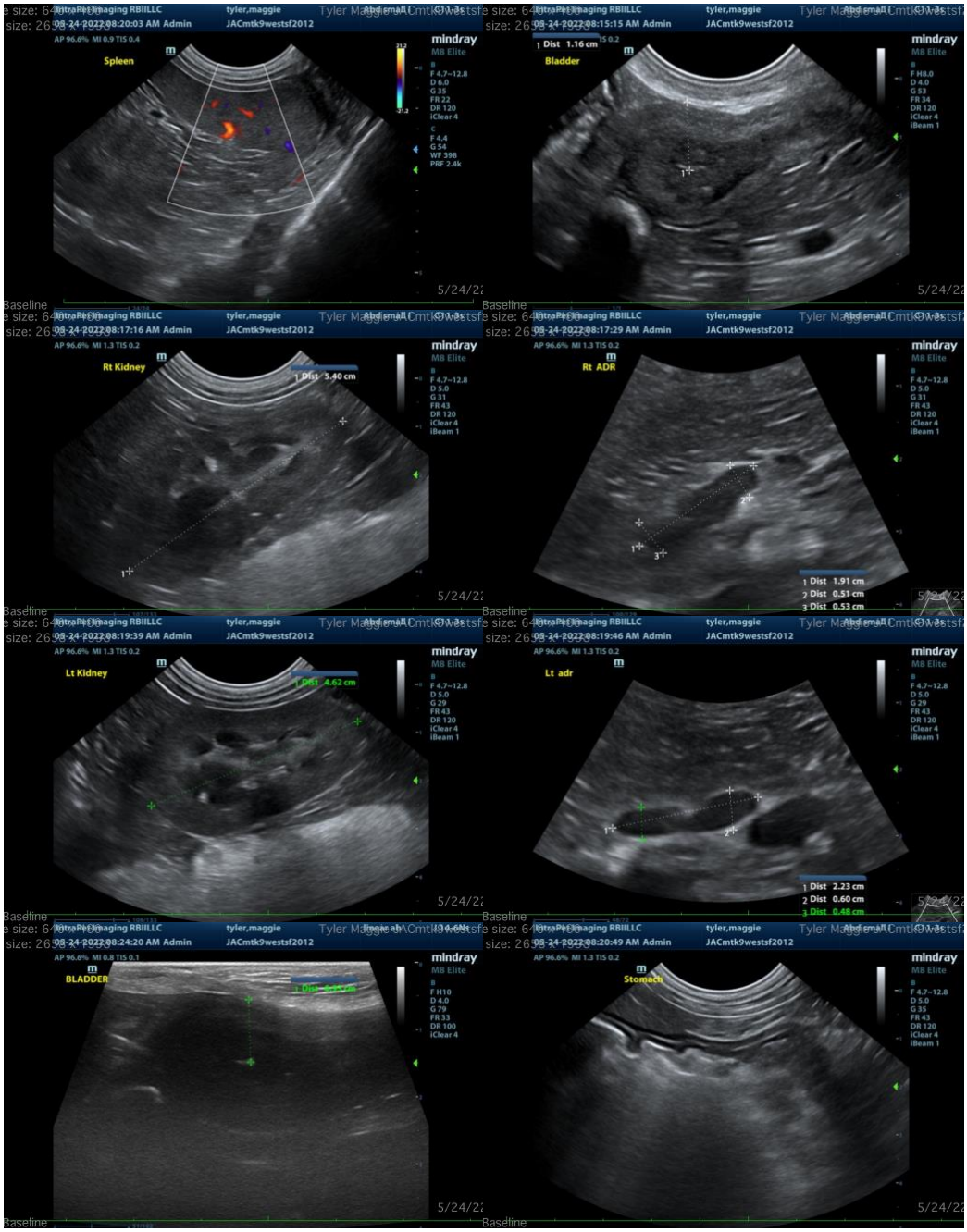
- Accurate urinalysis and culture are essential in trying to figure out what is going on. This is likely difficult if this patient is currently in antibiotics. If there is no response to the antibiotics, then I would consider discontinuing them and performing a urinalysis and urine culture at least two weeks after the Convenia injection was last given.

- If further diagnostics are desired prior to that time period, then you could consider performing a traumatic catheterization at that time. The urinary bladder could be instilled with saline and evaluated with ultrasound, urine could be sampled for urinalysis and culture, and a traumatic catheterization sample could be submitted for cytologic evaluation. Additionally, BRAF mutation testing can be helpful. If BRAF mutation testing is positive, then the likelihood of an underlying neoplastic process increases. If the testing is negative, then this is a non-diagnostic test and additional evaluation is required.

- Alternately, this patient could be referred for cystoscopy and biopsies and further evaluation through this diagnostic technique.

The changes observed are most consistent with bacterial cystitis, but given that this is an at risk breed and an older pet with chronic symptoms, an underlying neoplastic process is a possibility. If conservative therapy is desired with antibiotic treatment based on positive cultures, then the bladder should be evaluated approximately two weeks into antibiotic therapy to see if thew all can be better evaluated. If appropriate antibiotic therapy is instituted, this treatment should extend two weeks beyond normalization of the urinary bladder by ultrasound.

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JACmtk9westsf2012
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Spleen
mindray
MB Elite
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Bladder
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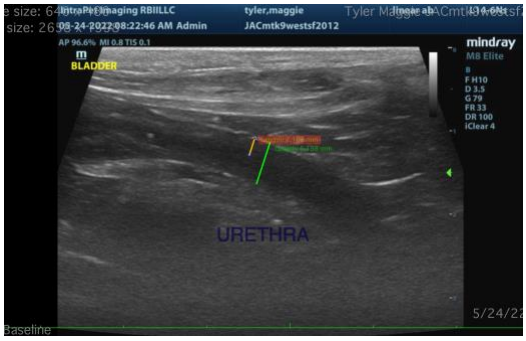
Stomach
mindray
MB Elite



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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