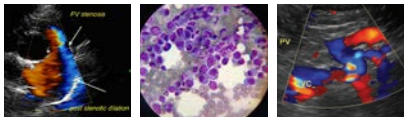
IMAGING PERFORMED BY

IntraPet.com



SonoPath
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DATE

1/27/23

PATIENT

Buttercup Barnes

SPECIES

Canine

BREED

German Shepherd

SEX

Spayed Female

AGE

1/27/10

WEIGHT

44.8 Pounds

INTERPRETED BY

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

HOSPITAL NAME

Animal Emergency Hospital

REFERRING VET

Dr. Goessling

INVOICE

44565

PRESENTING CLINICAL SIGNS

Owner's daughter was with Buttercup through the day. She was put in the bedroom with 2 calming treats while daughter was doing physical therapy. Then when she was let out of the bedroom, she was whining, seemed uncomfortable, kept trying to urinate but nothing was coming out. Previously had a toe amputated 10 years ago, a large cyst removed from her side maybe August 2019 and then a few weeks later, had a growth surgically removed from her gingiva.

Current Medications: Buprenorphine.
Lab Results: mild hypokalemia on RDVM blood work.
Radiographs: Possible single stone in bladder after urinary catheter was placed
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: STAT requested.
Imaging Performed By: Rachel Brilhart, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is mildly distended with suspended and dependent echogenic debris. The Bladder wall appears diffusely thickened and irregular with some mineralization of the mucosa. The region of the trigone and ureteral papillae are somewhat obscured by an indwelling foley catheter, and the visible urethra to a depth of 2.0 cm appears thickened, measuring 1.9 cm in diameter with wall thickness at 0.69 cm, with an irregular mineralized mucosa and a large amount of sandy debris within the dependent portion of the urinary bladder and the urethra.

The left kidney has a normal shape and size (6.36 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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 0.97 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 XXcm 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 but irregular. The spleen echotexture is heterogenous and mottled. The blood flow through the hilus and splenic parenchyma appears normal. There are numerous ill-defined heterogeneous mass effects associated with the spleen. At the head of the spleen, there is an irregular hypoechoic mixed echogenic mass effect measuring 7.8 cm x 6.79 cm. An additional mass is hyperechoic and irregular with mixed echogenicity, located more towards the tail of the spleen, measuring 6.77 cm x 6.98 cm.

Liver
The liver is subjectively normal in size, and hypoechoic with smooth peripheral margins. The parenchyma is 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 significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris. There is no evidence of bile duct dilation.

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 normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen
There is a small amount of free abdominal fluid. No lymphadenopathy is noted. The omentum is diffusely hyperechoic.

Thorax
The right auricle and pericardium were visualized and were unremarkable. No obvious pathology is visualized. If cardiac function evaluation is desired a full echocardiogram is warranted.

ULTRASONOGRAPHIC FINDINGS

- Thickened, irregular urinary bladder wall with a large amount of suspended and dependent sandy debris, as well as a thickened irregular urethra and foley catheter placement. Findings could be consistent with severe cystitis and urethritis, but the urethral lesions are concerning for possible underlying neoplasia.

- Large, mottled spleen with mixed echogenic, mildly cavitated mass lesions – Large, heterogenous masses with cavitations are present within the splenic parenchyma. The masses distortsthe splenic capsule. Differentials for the masses include neoplasia (e.g., hemangiosarcoma, hemangioma), hematoma, abscess, other. A neoplastic process is favored.

- Heterogeneous, hypoechoic 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.

- Large amount of debris within the gallbladder, adherent to the gallbladder wall with minimal surrounding inflammation – A large amount of debris is evident in the gall bladder with no evidence of a mucocele or associated inflammation at this time. This could represent an early mucocele or cholestasis, with minimal evidence of associated inflammation at this time. Continued monitoring of labwork and ultrasound are warranted for progression of this lesion. Ursodiol therapy could be considered.

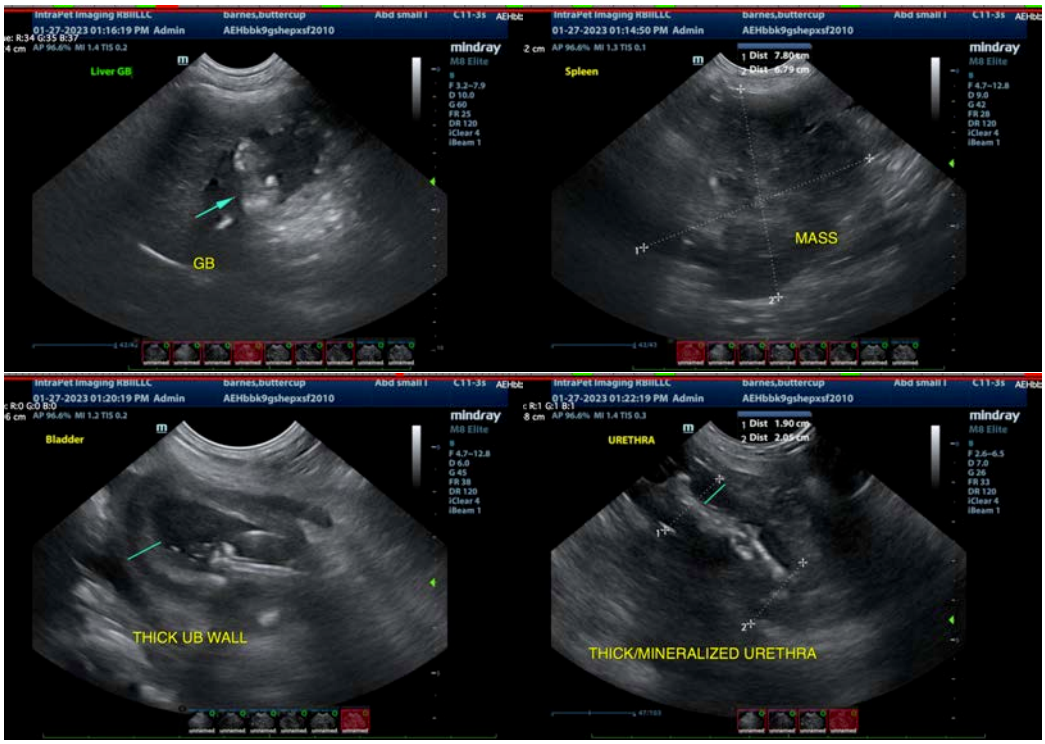
- Moderate free abdominal fluid

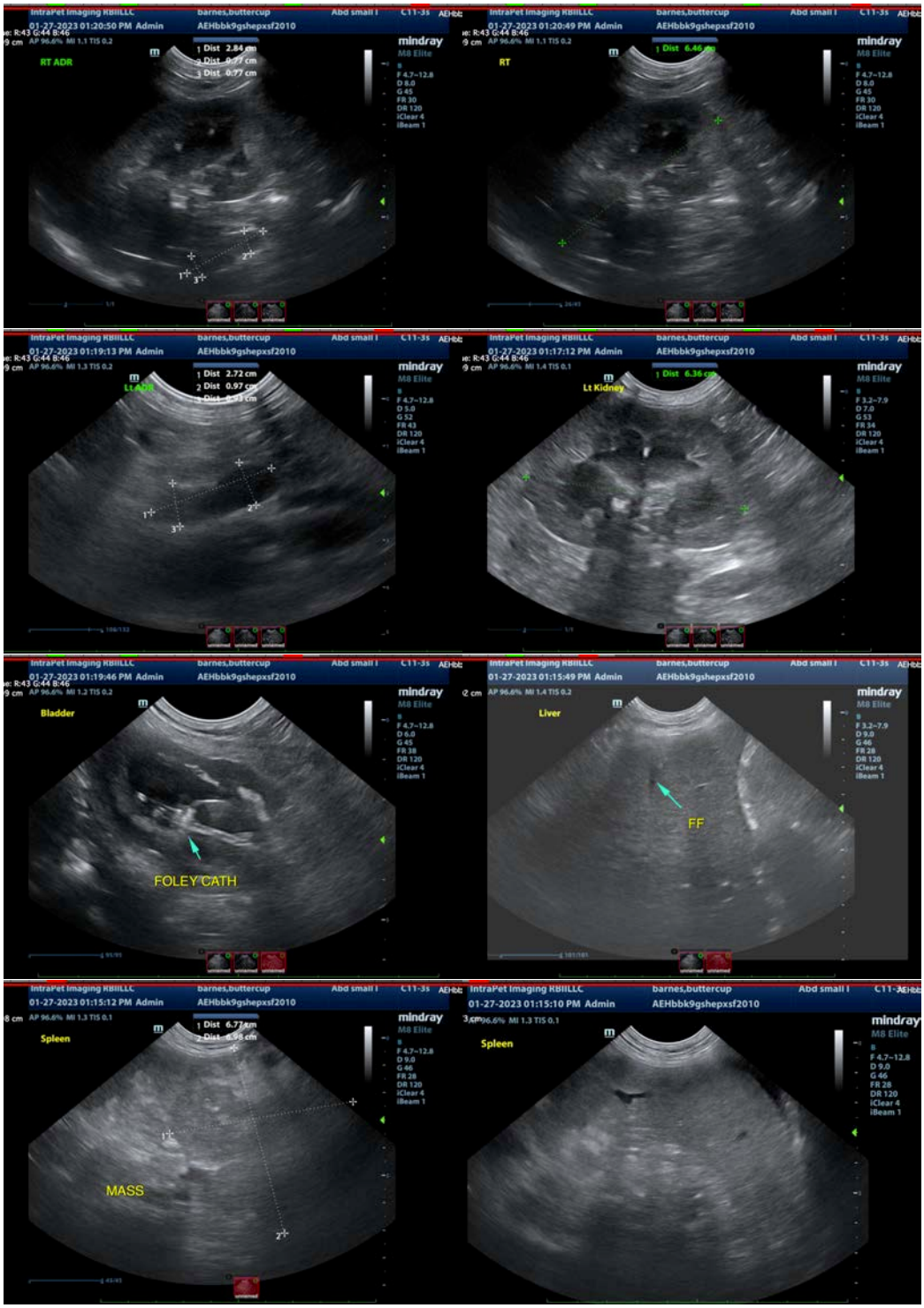
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The urinary bladder wall and urethra are diffusely thickened and irregular with mineralized mucosal and suspended and dependent mineralized debris. These changes could be consistent with severe cystitis or urethritis, but there is concern for an underlying neoplastic process due to the obstruction this patient presented with. Recommend a urinalysis and culture and submission of a catheterized sample for cytology, provided it appears somewhat cellular. If not, consider a traumatic catheterization to obtain a sample for cytologic evaluation, as a transitional cell carcinoma would be the primary differential.

Additionally, the spleen is very irregular, large, and has numerous masses, some of which are mildly cavitated. These changes are concerning for an underlying neoplastic process, but benign lesions are possible. Recommend 3-view thoracic radiographs and a fine needle aspirate of the spleen. A splenectomy would need to be considered in the future if this patient's urinary issue is improving.

The liver is somewhat heterogeneous, and there is a large amount of adhered debris to the gallbladder wall. Recommend continued monitoring +/- Ursodiol therapy.




RT ADR
RT
Lt ADR
Lt Kidney
Bladder
FOLEY CATH
Liver
FF
Spleen
MASS
Spleen

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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