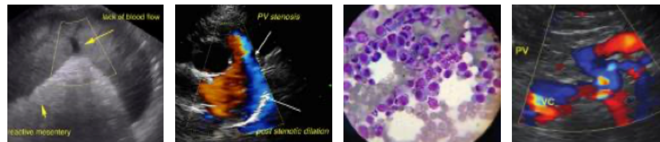
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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1-800-838-4268 info@sonopath.com

PATIENT

Thomas Mascarena

SPECIES

Canine

BREED

Shih Tzu

SEX

Male

AGE

11 years

WEIGHT

16 lbs

INTERPRETED BY

Andrea Nicastro, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

All Creatures Great & Small

REFERRING VET

Dr. Mitrovic

INVOICE

11315

DATE

8.2.22

PRESENTING CLINICAL SIGNS

History: Hematuria, x-rays: mass caudal bladder (possibly prostate)

Abnormal PE/Chem/CBC/UA Results: Urea 36, Creat 1.8 UA: Protein 3+, RBC 11-20, squamous epithelial 4-10 SG: 1.016

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** is mildly distended with anechoic urine. The wall in the region of the apex is thickened (up to 0.68 cm) with an irregular mucosal surface. The wall tapers to normal thickness as it extends toward the cystourethral junction. No cystic calculi are observed. The region of the trigone and the visible portion of the proximal urethra, visible to a depth of 2 cm, are normal.

The **prostate** is enlarged (3.18 cm in width) with a slightly irregular shape. The parenchyma is hyperechoic relative to surrounding omental fat and heterogenous in appearance, with numerous, small, ill-defined cystic areas throughout the gland. The prostatic and post-prostatic urethra are not overtly dilated.

The **left kidney** is normal size (4.55 cm in length); with a slightly irregular shape. The cortex is diffusely thickened and mildly hyperechoic. There is poor corticomedullary distinction. A few mineralized foci are visualized. Several, small cortical cysts are seen. Mild pyelectasia is present (0.28 cm in the longitudinal plane). A cortical infarct is suspected at the lateral aspect. There is no evidence of hydroureter. Renal vasculature is normal.

The **right kidney** is normal size (4.17 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is mildly thickened and mildly hyperechoic. There is poor corticomedullary distinction. A few, small, mineralized foci are visualized. One to two, small cortical cysts are seen. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The **left adrenal gland** is normal size (3.41 cm at cranial pole) (0.43 cm at caudal pole) (0.72 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The **right adrenal gland** is normal size (1.00 cm at cranial pole) (0.45 cm at caudal pole) (1.60 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen

The **spleen** is normal in size (0.96 cm in width at the level of the hilus) with a normal capsular contour. A 0.72 cm x 0.35 cm irregular heterogenous nodule is observed at the medial aspect. In addition, a few, ill-defined myelolipomas are seen in the region of the hilus. No focal lesions are observed. Splenic vasculature is normal.

Liver

The **liver** is subjectively normal in size with normal contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative, or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed.

The **gall bladder** lumen is moderately distended. The wall is thin and smooth. Luminal contents are anechoic. The cystic and common bile ducts are normal/not seen.

Gastrointestinal
The **gastric lumen** is moderately distended with ingesta. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

Pancreas
A portion of the **pancreas** is obscured by the gastric distention. In the visualized portion of the right limb, the pancreas is normal to prominent in size with minimal deviation from the normal peripheral contours. The parenchyma is slightly hyperechoic relative to surrounding omental fat and mottled in appearance. No distinct focal lesions are observed. The pancreatic duct is visible but not overtly dilated.

Free Abdomen
There is no evidence of free fluid.

Lymph nodes
(See “Other” category).

Other
The **left testicle** is mildly enlarged (2.18 x 1.56 cm) with a slightly irregular shape and heterogenous parenchyma .

The **right testicle** is subjectively normal in size (1.72 x 1.12 cm) with a normal shape and homogenous parenchyma.

A 1.27 x 0.60 cm cystic structure is observed just caudal to the left renal artery.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- The prostate changes are most consistent with benign prostatic hyperplasia with parenchymal cysts. Concurrent bacterial prostatitis is also possible.

- The urinary bladder wall changes could be consistent with cystitis or may be artifactual due to lack of full repletion.

- The bilateral renal changes are consistent with chronic interstitial nephrosis/nephritis with nonobstructive nephrocalcinosis, cortical cysts, left pyelectasia and a left cortical infarct.

Secondary Findings

- The splenic nodule could be consistent with a benign process (i.e., focus of lymphoid hyperplasia or extramedullary hematopoiesis). Alternatively, an emerging tumor cannot be completely excluded.

- The cystic lesion caudal to the left renal artery likely represents a benign cystic lymph node, with a lower possibility of emerging neoplasia.

- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

- The left testicular changes are most consistent with age-related remodeling. However, an emerging tumor is also possible.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

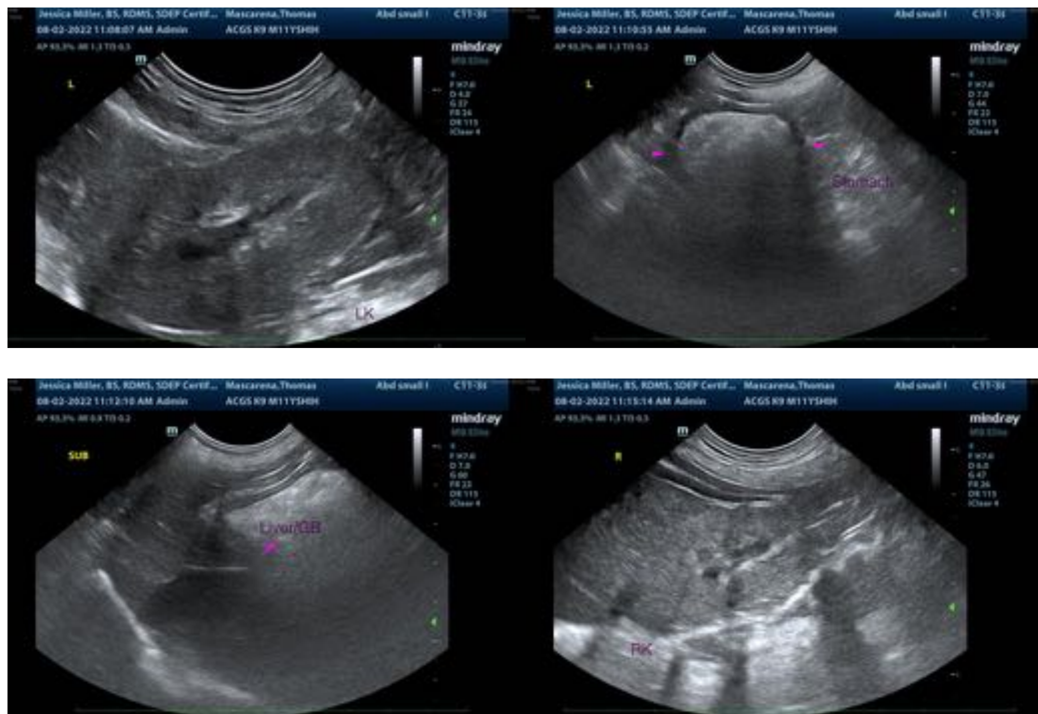
Given the patient's clinical signs and prostate changes, a urine culture and sensitivity is recommended. While awaiting test results, initiation of broad-spectrum antibiotic therapy (i.e., fluoroquinolone) is recommended. Given the squamous epithelial cells seen on the urinalysis, also consider a urine BRAF test to rule out lower urinary tract neoplasia. It should be noted that a negative BRAF test does not completely exclude the possibility of cancer. Therefore, if the clinical suspicion is high, additional testing may be warranted. Castration is also strongly recommended. If pursued, submission of the testicles for histopathology should be considered.

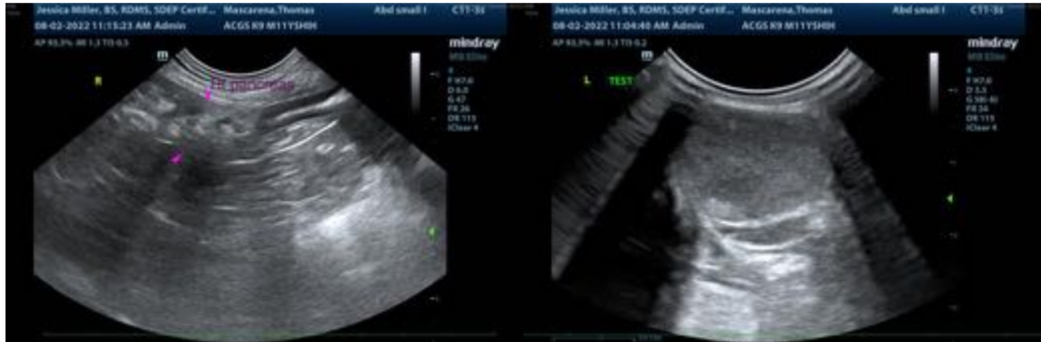
Given the azotemia and sonographic renal changes, consider the following:

1. UPC
2. Baseline blood pressure measurement
3. Transition to a prescription renal diet if the patient will tolerate it

Regarding the splenic nodule, consider a repeat ultrasound in 4-6 weeks to assess for progression.

Given the patient's age, three-view thoracic radiographs are recommended to assess cardiopulmonary status, particularly if surgery is to be pursued.

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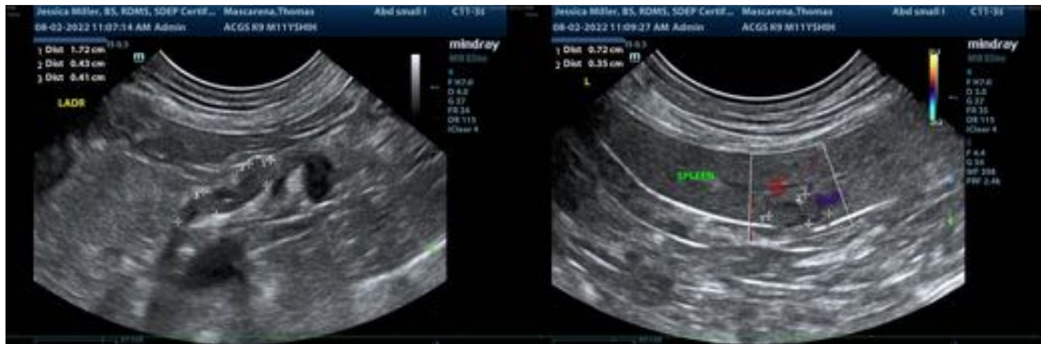
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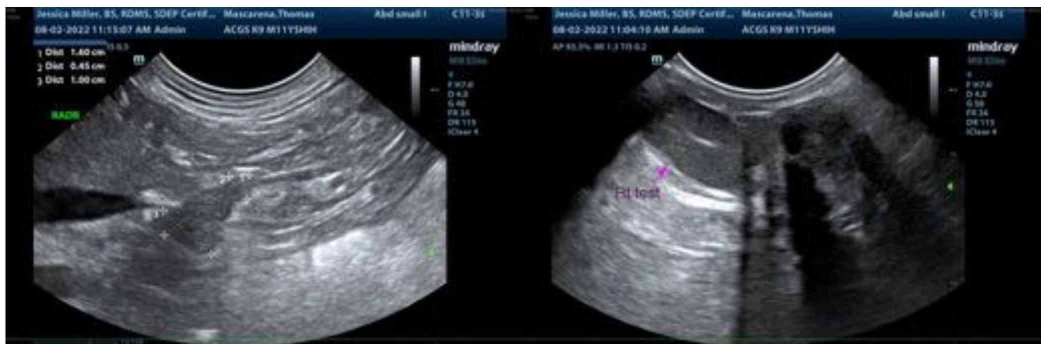
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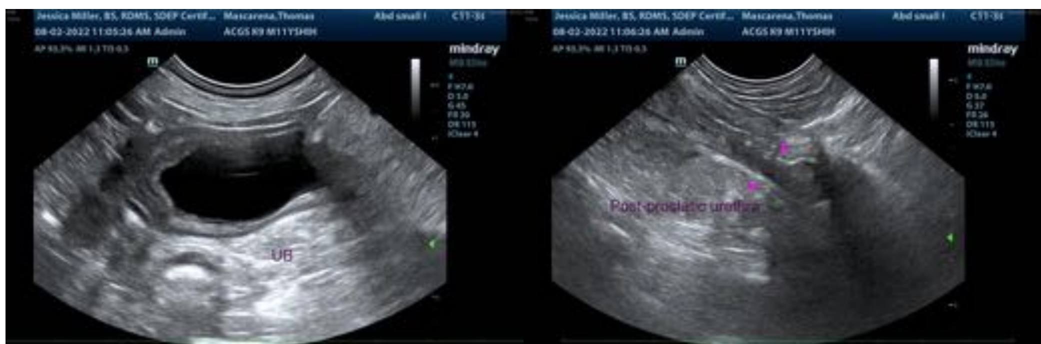
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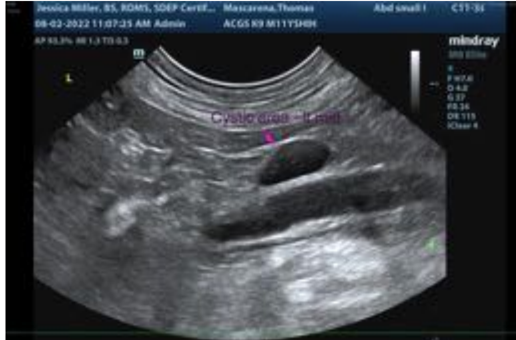
Post prostatic urethra



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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