



**PATIENT**

Bentley Nunziato

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Female, spayed

**AGE**

9 Yrs.

**WEIGHT**

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Kelly Vazquez, CVT

**HOSPITAL NAME**

Ramapo Valley AH

**REFERRING VET**

Dr. Gary Duhr

**INVOICE**

14189

**DATE**

11/8/22

**PRESENTING CLINICAL SIGNS**

History: Patient with history of chronic UTIs over the past 2 years, presents with colitis, bloody mucus diarrhea with tenesmus.

Abnormal PE/Chem/CBC/UA Results: 8/9/22: Alk. Phos. 943, calcium 14.5. U/A: 2+ blood, moderate WBCs, USG: 1.021.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

*Urinary System*

The urinary bladder is moderately distended. The ventral and apical wall is mildly thickened (up to 0.64 cm) and irregular with a few small foci of mineralization. A small amount of gravity-dependent mineralized sand is observed within the lumen. No distinct calculi are seen. The region of the trigone and the proximal urethra, visible a depth of 2 cm, are normal.

The left kidney is normal size (4.88 cm in length) with a normal shape and smooth peripheral contours. The cortex is diffusely thickened and hyperechoic to slightly heterogeneous in appearance. There is mild to moderate loss of corticomedullary distinction. Several non-obstructive nephroliths are visualized. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal size (5.28 cm in length) with a normal shape and smooth peripheral contours. The cortex is diffusely thickened and hyperechoic to slightly heterogeneous in appearance. There is mild to moderate loss of corticomedullary distinction. Several non-obstructive nephroliths are visualized. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. Trace pyelectasia is present (0.15 cm) in the longitudinal plane. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

*Adrenal Glands*

One still image of the left adrenal gland is available for interpretation. The left adrenal gland is mildly enlarged (0.72 cm at cranial pole) (0.56 cm at caudal pole) (2.12 cm in length); normal shape and smooth peripheral contours. There appears to be appropriate glandular echogenicity and detail. Surrounding vasculature appears normal.

One still image of the right adrenal gland is available for interpretation. The right adrenal gland is mildly enlarged (0.69 cm at cranial pole) (0.64 cm at caudal pole) (1.81 cm in length); normal shape and smooth peripheral contours. There appears to be appropriate glandular echogenicity and detail. Surrounding vasculature appears normal.

*Spleen*

The spleen is normal in size (1.28 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

*Liver*

The liver is subjectively prominent to enlarged with slightly swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and subtly mottled in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion. The portal vein: caudal vena cava ratio is approximately 1:1. The gall bladder lumen is moderately



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distended. The wall is thin and smooth. A scant amount of mineralized debris/sand is observed within the lumen. The cystic and common bile ducts are normal/not seen.

**Gastrointestinal**

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The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is mildly 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 segmentally dilated with chyme (mild). 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. No obstructive disease is noted.

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**Pancreas**

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The right limb of the pancreas is normal in size with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion.

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**Free Abdomen**

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

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**ULTRASONOGRAPHIC FINDINGS**

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**Primary Findings:**

- The urinary bladder wall changes are most consistent with cystitis with a lower possibility of emerging neoplasia (i.e., transitional cell carcinoma).

**Secondary Findings:**

- The bilateral renal changes are most consistent with chronic interstitial nephrosis/nephritis with non-obstructive nephrocalcinosis.
- The mild bilateral adrenomegaly may be a normal variant for this patient or may represent early hyperplastic change.
- The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, regenerative nodular hyperplasia, and/or age-related remodeling. Inflammatory and infiltrative disease are considered less likely.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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- Regarding the urinalysis and urinary bladder wall changes, a urine culture and sensitivity is recommended.
- Regarding the hypercalcemia, an ionized calcium and PTH/PTHrP are recommended along with three-view thoracic radiographs (to assess for occult neoplasia in the chest) and rectal evaluation (to assess for anal gland tumors).
- Regarding the diarrhea, consider the following:

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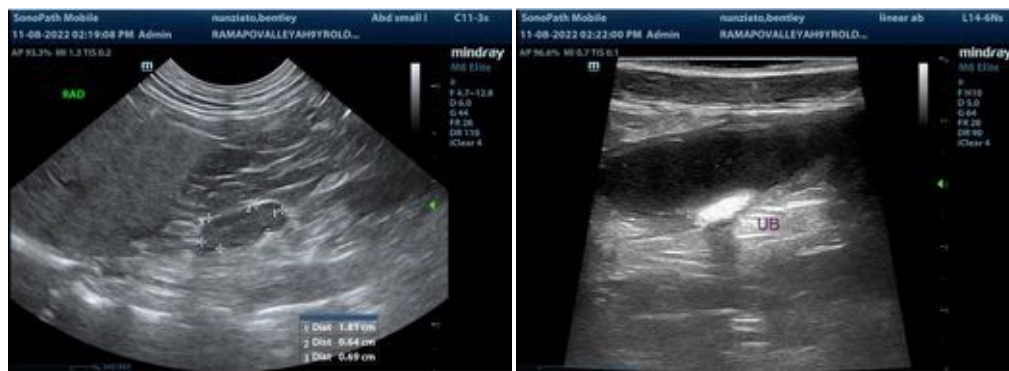
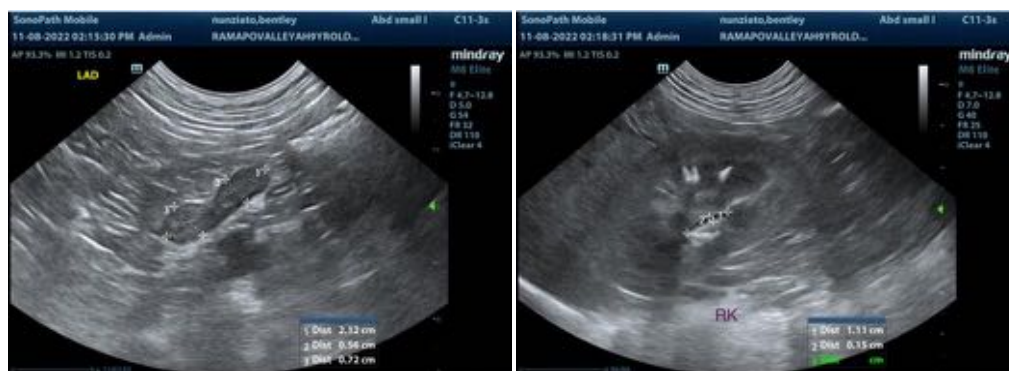
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1. A fecal evaluation for ova/Giardia
2. Prophylactic deworming with Fenbendazole
3. +/- fecal PCR infectious disease panel
4. Initiation of a probiotic +/- fiber supplementation
5. Bland diet until diarrhea resolves.





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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.

Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)  
[info@SonoPath.com](mailto:info@SonoPath.com)

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