

**DATE PRESENTING CLINICAL SIGNS**

1/4/21

**PATIENT**

Topper Snyder

History: Persistent Hematuria. Late neuter. Hematuria and increased urination frequency continue. Marbofloxacin did not work as well as Clavamox. Urinary catheter passed with some grit feel to passage. Gross hematuria noted. Conjunctivitis = left eye with scleral injection and conjunctival inflammation = moderate. Purulent discharge. Terramycin applied and RX TGH. Low dose Dexamethasone suppression test was normal. USG 1.023. 2+ proteinuria with gross hematuria. Urine culture positive in November.

**SPECIES**

Canine

Current Medications: Terramycin.

Lab Results: hematuria; Urine to Idexx for U/A and C&amp;S. (in-house pH =7.5).

Date of Previous IntraPet Ultrasound: No previous IntraPet scans.

**BREED**

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

West Highland Terrier

**SEX**

Male, neutered

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****Urinary System**

The urinary bladder is minimally to mildly distended. The bladder wall is diffusely and severely thickened and irregular with a mass effect, particularly in the region of the dorsal wall. The mass effect occupies the majority of the urinary bladder lumen. The urinary bladder wall is heterogeneous with foci of mineralization and measures up to 1.75 cm in thickness. Within the visible lumen, the contents are mostly anechoic. The proximal urethra is subjectively thickened. The mesentery effacing the serosal surface is reactive.

**AGE**

10/22/2010

The prostate is moderately enlarged (1.62 cm in width) with a normal shape and smooth peripheral contours. The parenchyma is subtly heterogeneous in appearance. The prostatic urethra is not overtly dilated.

**WEIGHT**

20.5 lbs.

**INTERPRETED BY**

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

The left kidney is normal in size (5.08 cm in length) with a normal shape, smooth peripheral margins and normal internal architecture. There is moderate loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. A few small non-obstructive nephroliths are visualized. There is no evidence of pyelectasia or hydroureter. A few small cortical cysts are seen. Renal vasculature is normal.

**IMAGING PERFORMED BY**

Rachel Brillhart RDMS

The right kidney is normal in size (4.95 cm in length) with a normal shape, smooth peripheral margins and normal internal architecture. There is poor corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. Mild pyelectasia is present (0.30 cm in the longitudinal plane). A few small non-obstructive nephroliths are visualized. There is no evidence of hydroureter. A 0.43 cm cortical cyst is observed at the cranial aspect. Renal vasculature is normal.

**HOSPITAL NAME**

Festival VC

**Adrenal Glands**

The left adrenal gland is mildly enlarged (0.62 cm at cranial pole) (0.69 cm at caudal pole) (1.63 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.

**REFERRING VET**

Dr. Lomax

The right adrenal gland is mildly enlarged (0.65 cm at cranial pole) (0.60 cm at caudal pole) (1.94 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable.

**INVOICE**

12777

Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

### ***Spleen***

The spleen is subjectively normal in size (1.23 cm in width at the level of the hilus) with a normal curvilinear peripheral margins and a folded contour. The parenchyma is diffusely mottled in appearance. A few ill-defined hyperechoic areas are observed along the medial aspect. Splenic vasculature appears normal with no evidence of thrombosis.

### ***Liver***

The liver is subjectively prominent in size with swollen curvilinear peripheral contours. The parenchyma is isoechoic relative to the spleen and exhibits mild heterogeneity. No distinct focal lesions are observed. Hepatic vasculature and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is normal in thickness. A moderate to large amount of aggregated echogenic to mineralized mostly gravity-dependent sludge is observed within the lumen. The cystic and common bile ducts are normal/not seen.

### ***Gastrointestinal***

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. 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. No obstructive disease is noted.

### ***Pancreas***

The right limb of the pancreas is visible 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.

### ***Free Abdomen***

There is no evidence of free fluid. The abdominal lymph nodes are normal/not visible.

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings:**

- Urinary bladder wall mass effect occupying most of the bladder lumen with suspected extension into the proximal urethra +/- the prostate. Neoplasia (i.e., transitional cell carcinoma, prostatic adenocarcinoma) is suspected with a low possibility of benign pathology. Regional retroperitonitis is present.

### **Secondary Findings:**

- Bilateral age-related renal changes with dystrophic mineralization and non-obstructive nephrolithiasis. Mild right pyelectasia is present.
- Mild bilateral adrenomegaly.

- The splenic parenchyma changes are most consistent with a benign process such as lymphoid hyperplasia, extramedullary hematopoiesis or splenitis with a low possibility of infiltrative neoplasia (i.e., lymphoma, mast cell neoplasia). The hyperechoic splenic nodules trend toward the benign (i.e., myelolipomas) with lower potential for emerging neoplasia.
- 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.
- Gallbladder sludge, non-mucocele.
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

#### **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- A urine BRAF test is recommended to further assess for lower urinary tract neoplasia. If results are inconclusive, consider traumatic urethral catheterization with submission of the cells for cytologic evaluation. If neoplasia is confirmed, consider referral to a board certified oncologist for chemotherapy recommendations. If palliative care is desired, consider the following:
  1. Piroxicam at 0.3 mg/kg PO every 24 hours (may need to be compounded in smaller patients)
  2. Misoprostol (stomach protectant) at 2 mcg/kg PO every 12 hours
  3. Baseline renal values should be performed then repeated every 4 weeks to monitor for nephrotoxicity
- Three-view thoracic radiographs are recommended to assess for pulmonary metastatic disease.





**The information and recommendations provided are based on the images presented by the referring veterinarian. 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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