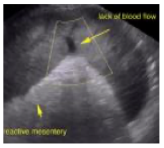
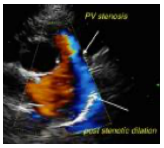
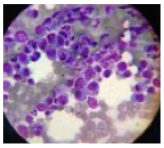
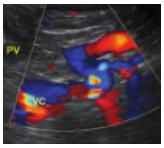
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

**PATIENT**

Wilbur Vandevander

**SPECIES**

Canine

**BREED**

Mini Poodle

**SEX**

Intact Male

**AGE**

9 years

**WEIGHT**

16 lbs

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Dr. Scott

**HOSPITAL NAME**

Ho Ho Kus VH

**REFERRING VET**

Dr. Eisenberg

**INVOICE**

11685

**DATE**

9.23.22

## PRESENTING CLINICAL SIGNS

History: chronic loose stool

Abnormal PE/Chem/CBC/UA Results: PE WNL CBC/Chem pan hypoproteinemia Alb 1.2, TP 3.2, Glob 2.0, Choleserol 112 fecal negative

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The **urinary bladder** wall is normal in thickness and the mucosal surface in the region of the apex is slightly irregular. The bladder lumen is mildly distended with anechoic urine. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

The **prostate** is enlarged (>3.00 cm in width) with a slightly irregular shape. The parenchyma is hyperechoic relative to surrounding omental fat and heterogenous in appearance, with several, small, ill-defined cystic areas. The prostatic urethra is not overtly dilated.

The **left kidney** is normal size (4.45 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

The **right kidney** is normal size (4.17 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

### *Adrenal Glands*

The **left adrenal gland** is normal size (0.50 cm at cranial pole) (0.45 cm at caudal pole); 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 borderline enlarged (1.01 cm at cranial pole) (0.53 cm at caudal pole); 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 (0.90 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 prominent normal in size with normal curvilinear peripheral contours. The parenchyma is hypoechoic relative to the spleen, with minor changes consistent with age-related remodeling. No focal lesions are observed. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion.

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

### *Gastrointestinal*

The **gastric lumen** is mildly distended with ingesta. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The small intestinal lumen is segmentally dilated with food and chyme (mild). The small intestinal wall is normal in thickness with retention of the normal layering pattern. There is evidence of mucosal speckling in some segments. Discreet masses are not identified. The colonic wall is normal. The lumen of the descending colon contains liquid-appearing fecal material. There is no obvious evidence of an obstructive pattern.

### *Pancreas*

The right limb is prominent in size with irregular peripheral contours. The parenchyma is heterogenous. No distinct focal lesions are observed. The pancreatic duct is not overtly dilated

### *Free Abdomen*

A moderate amount of anechoic free fluid is present. The mesentery throughout the abdomen is hyperechoic. The abdominal **lymph nodes** are normal/not visible.

## ULTRASONOGRAPHIC FINDINGS

### Primary Findings

- The bowel wall changes in conjunction with the patient's clinical history support a diagnosis of a protein-losing enteropathy. Top differentials include inflammatory bowel disease, infectious/parasitic disease, lymphangiectasia, emerging lymphoma.
- The pancreatic changes could be suggestive of mild to moderate, chronic, +/- active pancreatitis.
- The ascites is likely secondary to low oncotic pressure, +/- concurrent bowel pathology.

### Secondary Findings

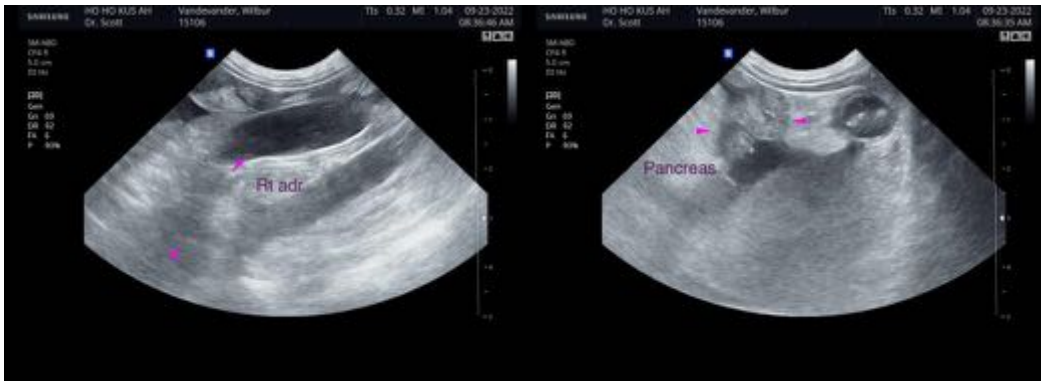
- The hepatic parenchymal changes are most consistent with benign age-related remodeling, +/- concurrent vacuolar hepatopathy.
- The prostate changes are most consistent with benign prostatic hyperplasia with parenchymal cysts.
- Minor degenerative renal changes with dystrophic mineralization

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the patient's clinical history, consider the following:

1. A fecal evaluation for ova and Giardia, if not already performed
2. Prophylactic deworming with Fenbendazole
3. Malabsorption panel including serum cobalamin and folate, TLI and PLI to assess for maldigestion/malabsorption and underlying pancreatic disease
4. Low-fat limited antigen diet trial
5. Consider empirical treatment for small intestinal bacterial overgrowth with a 4-week course of Tylosin.
6. Ultimately endoscopic or surgical gastrointestinal biopsies may be necessary to get a definitive diagnosis. If pursued, thoracic radiographs should be performed prior to anesthesia.

To evaluate for concurrent causes of hypoalbuminemia, consider pre-and postprandial serum bile acids, a UPC, +/- a resting cortisol level.







**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