

**DATE PRESENTING CLINICAL SIGNS**

8/9/22 History of chronic lymphocytic leukemia- chemotherapy discontinued last Dec. Recent increased BUN, globulins and proteinuria.

**PATIENT**

Phin Wieland

Current Medications: Leukeran Discontinued 12/2021, Prednisolone 5mg 1 tab 2x per week, Famotidine 5mg BID, Denamarin 90 SID, Cerenia 16mg SID, Metronidazole PRN for Diarrhea, gabapentin 50mg BID, Trazodone 50mg prior to appts.

**SPECIES**

Canine

Lab Results: BUN 35, glob 4.7, TP 7.9, UPCR 2.7.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

**BREED**

Chihuahua

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****SEX**

Neutered Male

**Urinary System**

The urinary bladder is moderately distended with anechoic contents. No masses or inflammatory changes. Mineral debris/sand/small cystoliths are accumulated along the dependent wall. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

**AGE**

2/11/10

Prostate is normal in size, echotexture and echogenicity for a neutered male.

**WEIGHT**

18.2 Pounds

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia or infarcts observed. The left kidney measured 4.54 cm. The right kidney measured 4.44 cm. Non-obstructive areas of mineralization/nephroliths are noted. A 0.4 cm anechoic cortical cyst is present in the left kidney. A 0.75 cm anechoic cortical cyst is noted in the right kidney.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**Adrenal Glands**

The right adrenal gland is normal in size (1.88 cm x 0.65 cm at the caudal pole and 0.61 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**IMAGING PERFORMED BY**

Rachel Brillhart RDMS

The left adrenal gland is normal in size (2.23 cm x 0.53 cm at the cranial pole and 0.53 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**HOSPITAL NAME**

Greenbrier Vet Clinic

**Spleen**

Spleen is subjectively large in size with a swollen and scalloped/undulating capsular contour. Multifocal coalescing nodules are noted throughout the parenchyma. Splenic vasculature appears normal. Enhanced hyperechoic surrounding fat is noted.

**REFERRING VET**

Dr. Delinger

**Liver**

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

**INVOICE**

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Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

### ***Gastrointestinal***

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

### ***Pancreas***

The observed pancreas appears appropriately isoechoic to surrounding omental fat. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### ***Free Abdomen***

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

## **PRIMARY FINDINGS**

- **Honeycomb Spleen** – This finding is concerning infiltrative disease such as round cell neoplasia. Benign disease cannot be ruled out but is considered less likely, especially given this patient's history and reportedly increased globulin level.
- **Heterogenous Liver** – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.
- **Gallbladder debris** - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

## **SECONDARY FINDINGS**

- Urinary bladder sand/cystoliths
- Age related kidney change with non-obstructive mineral and bilateral cortical cysts
- **Pancreatic age-related remodeling** – Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.

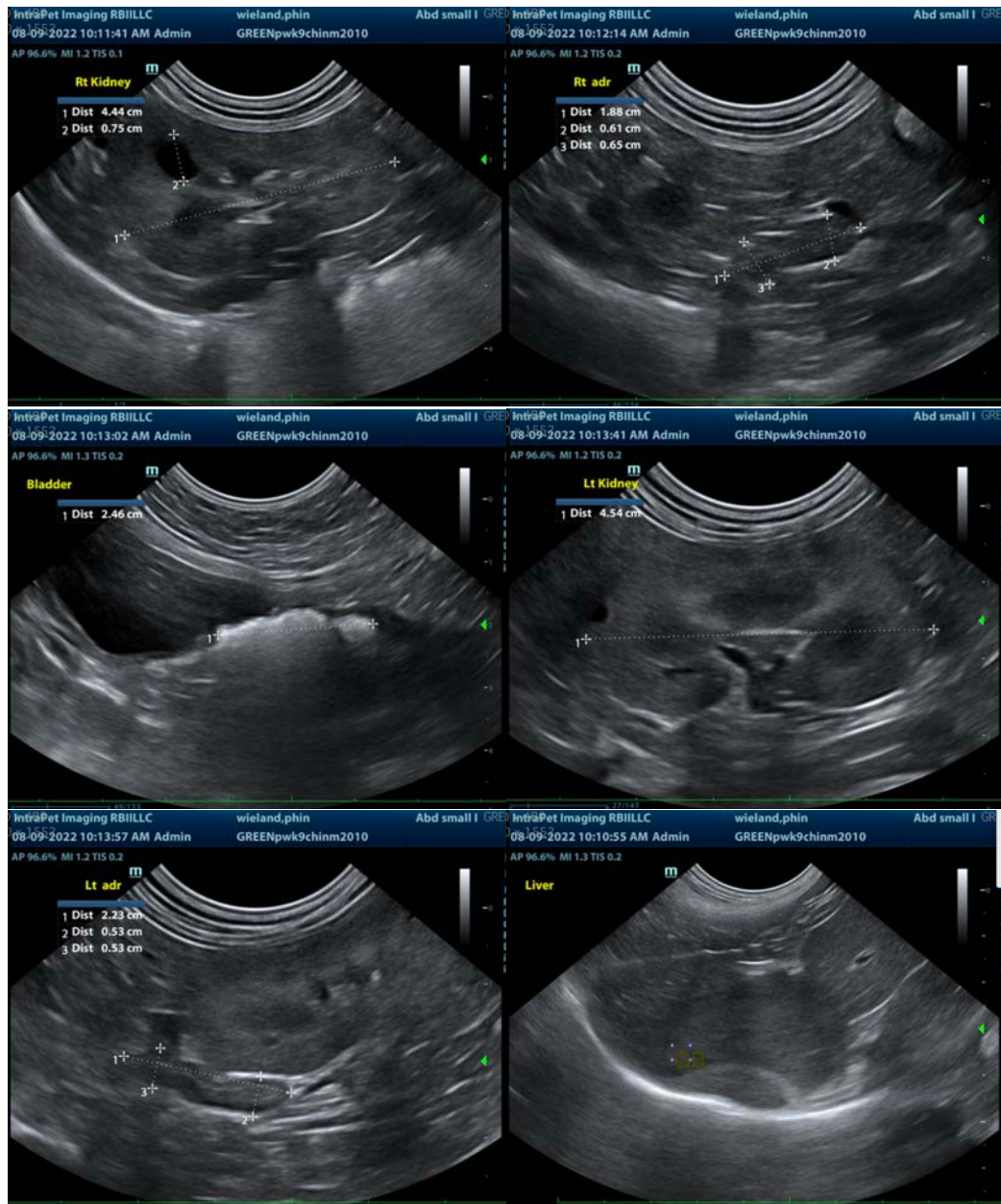
## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given this patient's history, etc., a fine needle aspirate of the spleen is recommended if patient's coagulation status is appropriate.

The mild proteinuria is likely secondary to chronic Prednisone administration. However, a blood pressure is recommended if not recently evaluated, and close regular monitoring is recommended to catch any progression that may warrant medical management.

The mildly increased BUN with normal creatinine and normally concentrated urine is concerning for a possible gastrointestinal bleed, which may also be present and secondary to chronic steroid administration. Recommendations include beginning therapy with antacid such as Omeprazole and potentially a course of Sucralfate to treat possible microulceration.

Empirical deworming with a 5-day course of Panacur is recommended as well.





**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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