



**PATIENT**

Bella Gibbs

**SPECIES**

Canine

**BREED**

Rat Terrier

**SEX**

Spayed female

**AGE**

15 years

**WEIGHT**

12.5 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Fritz

**HOSPITAL NAME**

Waterbury VH

**REFERRING VET**

Dr. Fritz

**INVOICE**

43419

**DATE**

3/21/23

**PRESENTING CLINICAL SIGNS**

**History:** In March 2022 p presented for vomiting and anorexia. Marked LE elevation at that time. P diagnosed with a gallbladder mucocele, hepatic cysts and colitis. April 2022 p had a cholecystectomy, hepatic biopsies with culture, and copper testing. Biopsies consistent with mild portal hepatitis, culture negative, liver copper testing normal (196 ppm). P doing well since on denamarin and RC GI low fat diet. Consistently mild ALT and ALP elevation. Annual exam in Feb - weight loss, occasional vomiting, increased ALP and ALT elevation with new GGT elevation, electrolyte imbalance, hyperproteinemia and hyperalbuminemia.

**Abnormal PE/Chem/CBC/UA Results:** PE - continued mild weight loss (1.5lbs since Sept 2022), DJD, mild tachycardia CBC - mild/mod thrombocytosis Chem - BUN 46 (SDMA 13, creat 1.2, phos 5.8), mild hypercalcemia 11.9 mg/dL, hyperkalemia 6.2, Na/K 24, chloride 104 mmol/L, Anion Gap elevated 30, TP 7.6, albumin 4.1, ALT 212, ALP 219, GGT 17, Cholesterol 352 mg/dL, lipase 516 U/L T4 - 2.1 ug/dL UA - USG 1.016, pH 5.5, protein 1+ 4dx - neg x 4 Fecal - NOS UPC - 0.8 UCCR - 49

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The **bladder** in this patient was mildly thickened with slight echogenic mural changes. No calculi or masses were noted. Slight micropolypoid changes were noted. This is a frequent finding in older animals and may be linked to a history of chronic urinary tract infection or active urinary tract infection. Urinalysis would be recommended with culture if any evidence of inflammatory sediment is present. The region of the trigone and visible pelvic urethra were normal.

The **kidneys** presented a relatively uniform cortical hyperechogenicity when compared to the renal medulla, spleen and liver. No overt masses were noted. Corticomedullary definition was nebulous and the ratio favored the cortex slightly. The ureters were not visible and assumed to be normal. These changes are most consistent with chronic interstitial nephritis yet infiltrative disease could not be entirely ruled out without biopsy though neoplasia is not suspected. Pyelectasia was noted in the left kidney. The right kidney measured 4.34 cm. The left kidney measured 3.9 cm.

**Adrenal Glands**

The **adrenal glands** were at the upper limits of normal, yet appear mildly swollen. The right adrenal gland measured 0.83 cm at the caudal pole and 0.65 cm at the cranial pole. The left adrenal gland measured 0.6 cm at the caudal pole and 0.52 cm at the cranial pole.

**Spleen**

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.



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**Liver**

Bella Gibbs

The **liver** revealed mild coarse architecture and occasional, hyperechoic, lipogranulomatous nodule. Minor swelling was noted. The caudate process was uniformly enlarged. The region of the gallbladder fossa was unremarkable. There was no residual pathology.

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Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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**Pancreas**

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The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

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**ULTRASONOGRAPHIC FINDINGS**

Subjectively benign hepatopathy with minor remodeling and lipogranulomatous changes.

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Moderate chronic renal changes. Pyelectasia of the left kidney.

Bladder wall thickening.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There is concern for underlying UTI or pyelonephritis in this patient. Given the isosthenuria washout effect may be playing a role. Structurally the GI tract appeared unremarkable. Supportive care should prove effective. IV fluid support is recommended to correct the azotemia. Urine culture and reassessment of the clinical signs are recommended after 48-72 hours.

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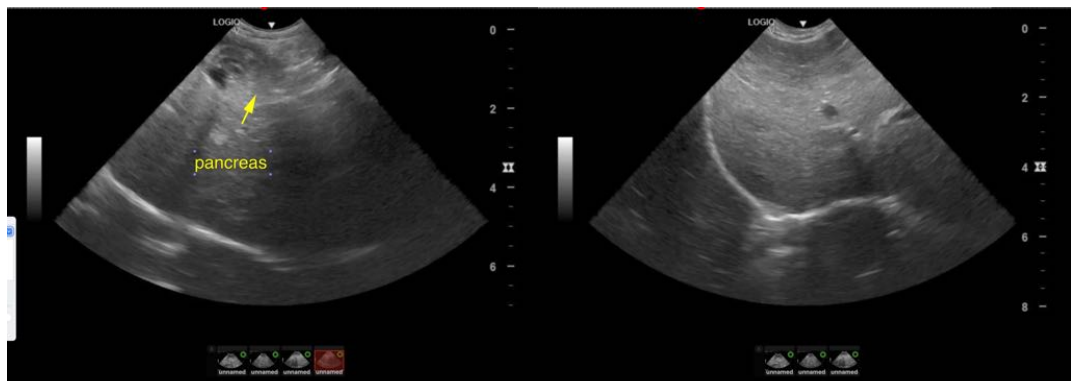
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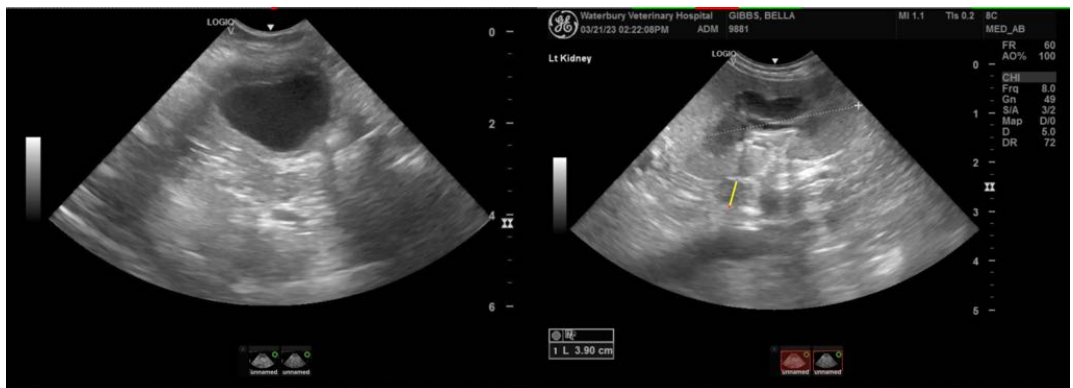
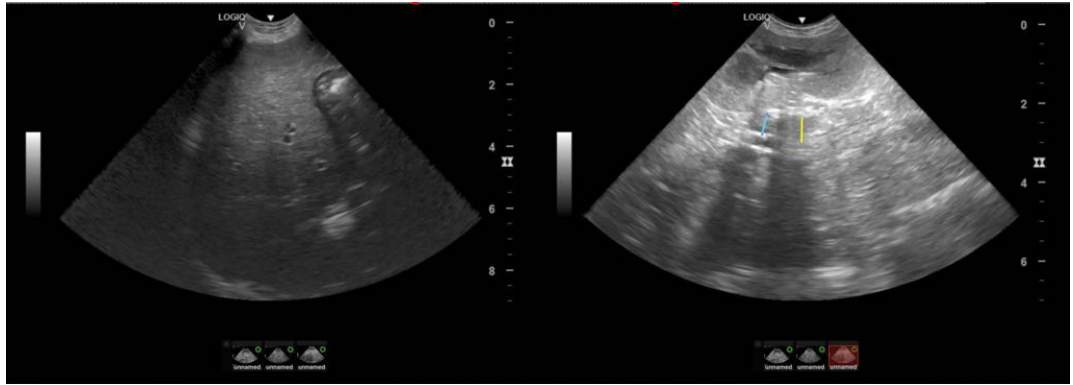
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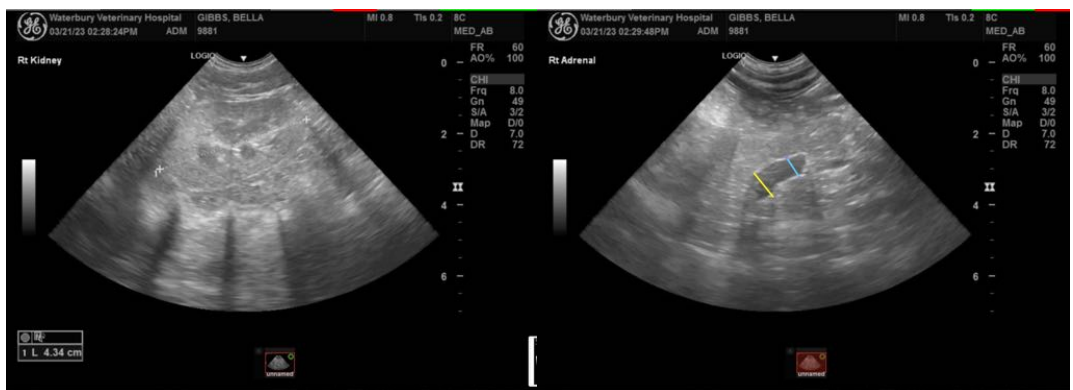
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**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

**Eric Lindquist**, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
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