



**PATIENT**

Carson Boyd

**SPECIES**

Feline

**BREED**

DSH

**SEX**

MN

**AGE**

13 yr

**WEIGHT**

12.98 lb

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**  
Agnes Rupley DVM

**HOSPITAL NAME**

All Pets Medical  
Center

**REFERRING VET**

Agnes Rupley DVM

**INVOICE**

10695ag

**DATE**

05/30/2022

**PRESENTING CLINICAL SIGNS**

History: Abdominal ultrasound performed because Carson has a worsening leukopenia of one year duration. The leukopenia is a result of a lymphopenia and neutropenia. No significant abnormalities on exam except dental disease. No weight loss. CBC reveals high normal PCV, and leukopenia of 3.65 (5.5-19.5) resulting from a lymphopenia 0.91 (1.5-7) and neutropenia 2.37 (2.5-14). Chemistry panel reveals elevated amylase (chronic), elevated BUN (mild at 33), elevated creatinine (at 1.7). Urinalysis results reveal uro 4, pH of 6.0, and Specific Gravity: 1.025. Urine Pro:Cr Ratio normal at <0.2. Cholesterol and T4 are normal. The neutropenia and lymphopenia have worsened since testing last year 4/9/21. Feline Leukemia and FIV tests do not reveal evidence of infection with either of these viruses. Average systolic blood pressure is normal. Urine culture results pending.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder and visible pelvic urethra were unremarkable for the level of repletion presented. The urine, however, did present some mildly echogenic debris consistent with mucous, exfoliated cells from renal or bladder origin, and/or blood clots as these echogenic changes can all present similarly. This is often related to urinary tract infection but may represent simple evidence of exfoliated debris or sterile inflammation. Cystocentesis, urinalysis, +/- culture would be recommended to rule out and define any UTI.

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.

The left kidney measured 3.94 cm in length. The right kidney measured 4.6 cm in length.

**Adrenal Glands**

Both adrenal glands were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 0.42 cm. The right adrenal gland measured 0.51 cm.

**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 were noted. The spleen measured 1.2 cm in maximum width.

**Liver**

The liver images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic



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lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

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**Gastrointestinal**

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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. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

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**ULTRASONOGRAPHIC FINDINGS**

**AGE**

- Chronic interstitial nephrosis with stable left renal infarct-kidneys appear approximately 50-60% compromised in this patient
- Mild splenomegaly-reactive spleen vs splenitis

13 yr

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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An FNA of the spleen, CBC path review +/- bone marrow aspirate is warranted based on patient history. The kidneys appear to be stable yet have undergone prior insult.

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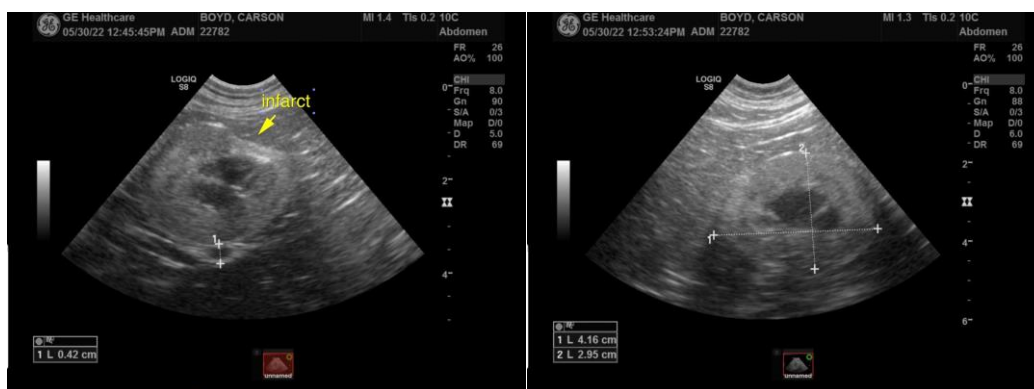
Agnes Rupley DVM

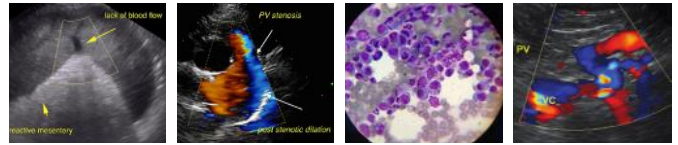
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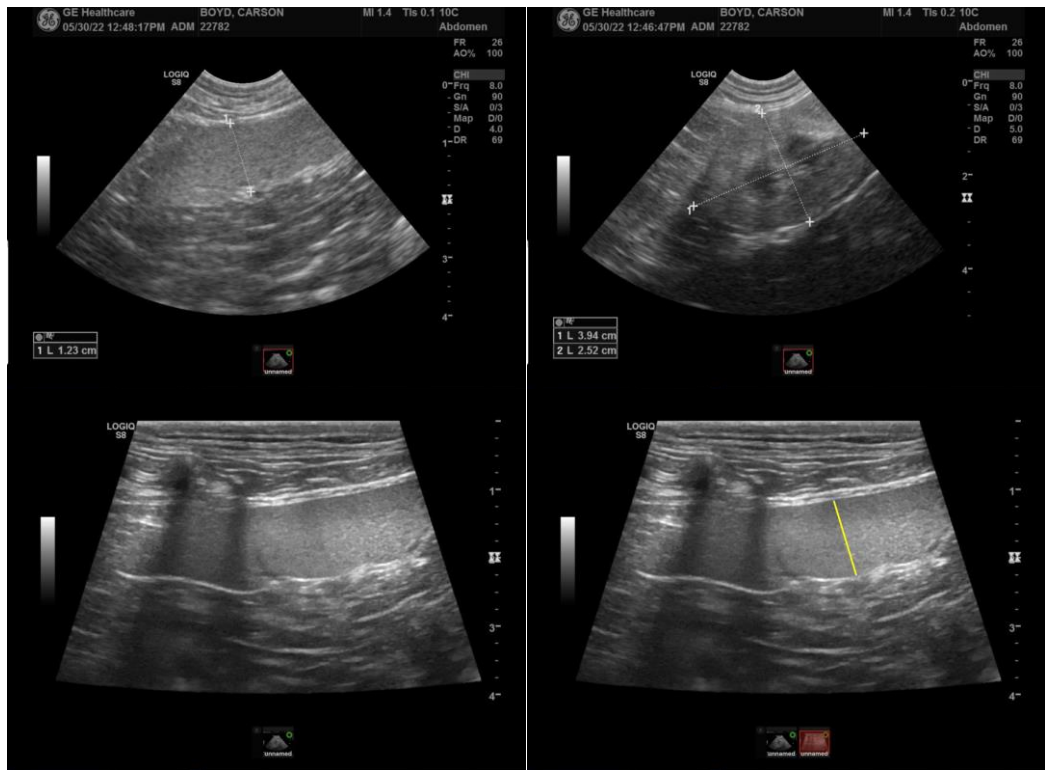
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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