

**DATE PRESENTING CLINICAL SIGNS**

9/8/22 Patient presents with severe ddz and intermittent appetite. g 2-3/6 l systolic murmur. Labs show elevated ALT and ALP values, Cr 2.1, BUN 33 with USG of 1.018.

**PATIENT**

Toby Cruz Current Medications: Carprofen.  
Lab Results: ALP 300s, down from 500s in Sept 2021. ALT 285  
Date of Previous IntraPet Ultrasound: No previous.

**SPECIES**

Canine

Sedation: Not required to complete full diagnostic ultrasound.  
Stat Report: Not requested.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****BREED**

Bichon Frise

**Urinary System**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

**SEX**

Neutered Male

The prostate is normal in size (0.76 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

**AGE**

11/29/08

The left kidney has a normal shape and size (4.62 cm) with small cortical cysts. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**WEIGHT**

16.6 Pounds

The right kidney has a normal shape and size (4.62 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**INTERPRETED BY**

Kathleen Sennello DVM,  
MS, Diplomate ACVIM  
(Small Animal Internal  
Medicine)

**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.51 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**IMAGING PERFORMED BY**

Stephanie Warga  
RDCS, RVT

The right adrenal gland is normal in size measuring 0.55 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**HOSPITAL NAME**

Everhart Vet Hospital

**Spleen**

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

**REFERRING VET**

Dr. Hays

**Liver**

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

**INVOICE**

41160

The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris and some areas have early mucosal stranding and organization of the debris into an early

mucocele. There is a large amount of primarily non-organized echogenic debris present as well. There is no evidence of bile duct dilation.

### ***Gastrointestinal***

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Jejunum wall measures 0.30 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

### ***Pancreas***

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

### ***Free Abdomen***

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is a structure in the dorsal aspect of the abdomen most consistent with a cystic lymph node measuring 0.73 cm in diameter. The omentum is generally of normal echogenicity.

## **ULTRASONOGRAPHIC FINDINGS**

- Decreased corticomedullary distinction in both kidneys – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.
- Heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Early gallbladder mucocele – The gall bladder changes are most consistent with a developing mucocele. Consider medical management and close monitoring for progression of this lesion.
- Suspect cystic lymph node in the abdomen – This is likely an incidental finding. Recommend continued monitoring.

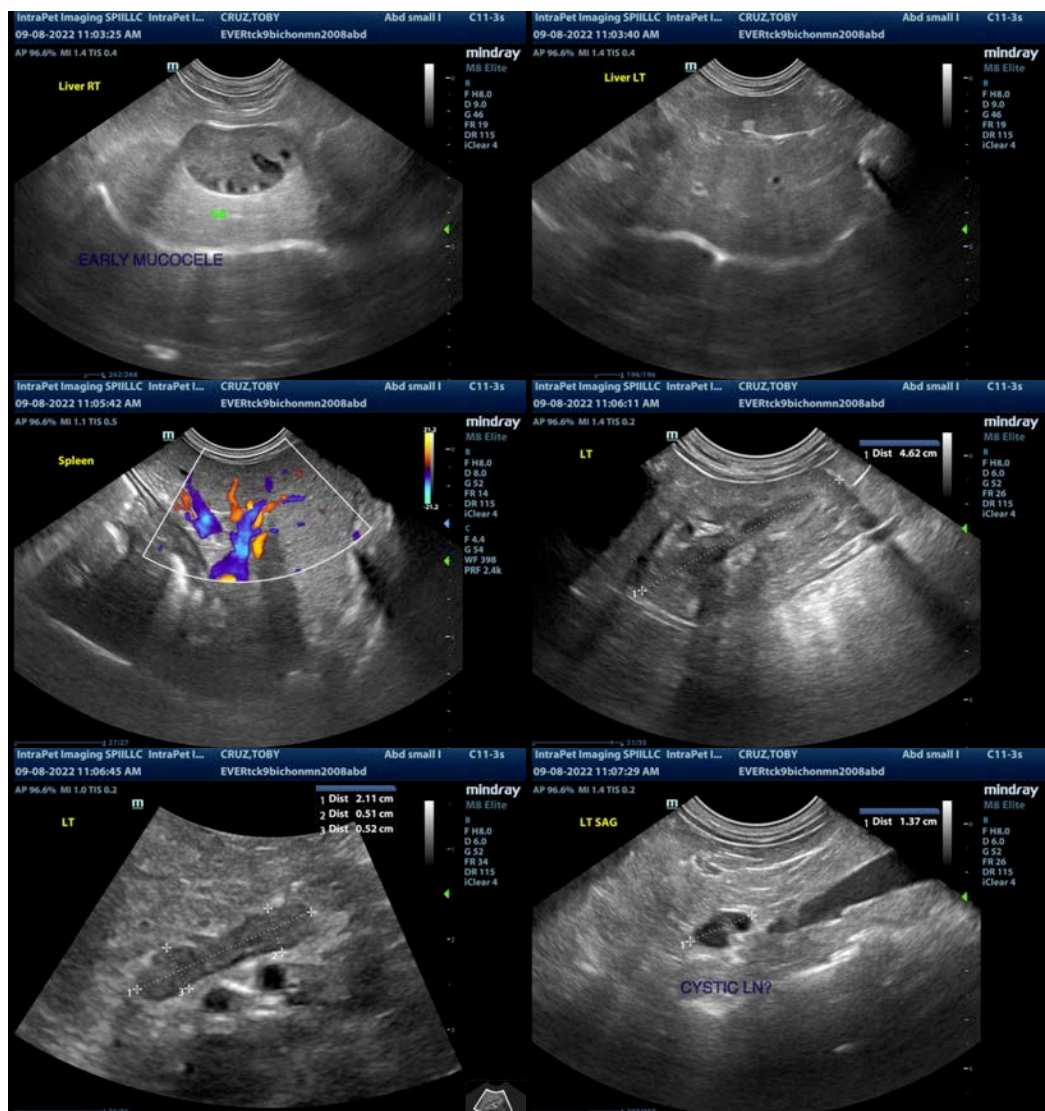
## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

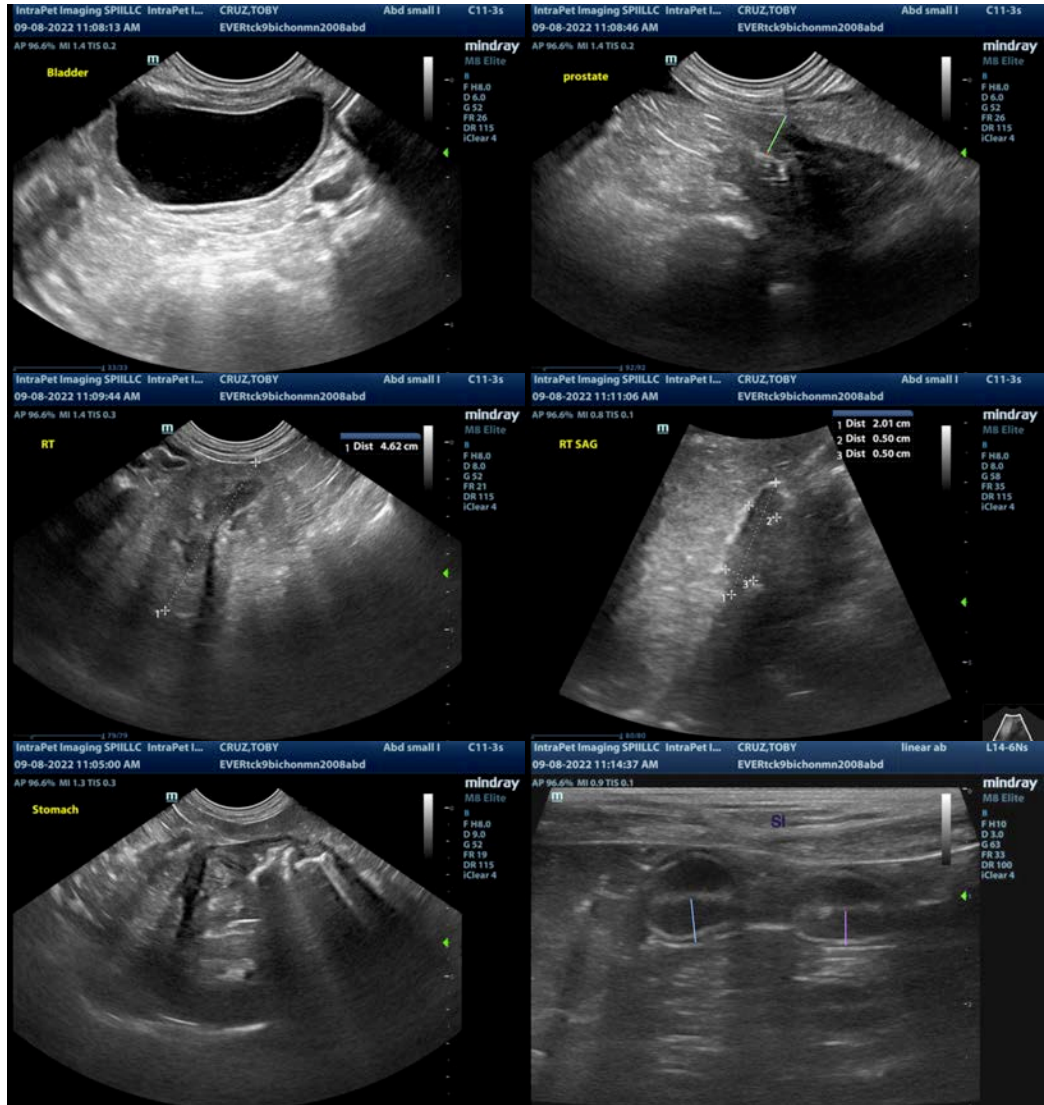
The bilateral renal changes observed are most consistent with chronic progressive renal disease as described in the history. If not already done, consider urinalysis, culture, and a blood pressure for a baseline.

The liver changes are mild and non-specific. Additionally, there are some changes visualized in the gallbladder, consistent with a large amount of debris and early organization, developing into possibly an early mucocele. There is no inflammation or wall thickening at this time. In this situation, it is difficult to determine if the liver enzyme elevations are secondary to the gallbladder or the liver. My suspicion would be the liver or a combination of the two. Consider the following recommendations:

- Consider chronic Ursodiol therapy and continued monitoring of the gallbladder.
- Consider a liver function test.
- Consider a fine needle aspirate of the liver provided coagulation parameters permit.
- Consider testing for Leptospirosis if clinically appropriate.
- If clinical signs progress and liver function is abnormal, you could consider a biopsy of the liver.

There is an irregular cystic structure visualized in the abdomen that I suspect is a cystic lymph node, and likely an incidental finding, but continued monitoring is warranted.





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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