



**PATIENT PRESENTING CLINICAL SIGNS**

**Kitti Cruz**  
Came as a second opinion. Has been diagnosed with diabetes, poorly controlled and feeding times have been a bit inconsistent. Overweight. Currently getting 5.5 units of insulin BID. Regenerative anemia on bloodwork with very high lymphocytes (too high to measure), elevated cholesterol, elevated AlkPhos, elevated WBCs.

**SPECIES**

Canine

**BREED**

Maltese X

**SEX**

Spayed Female

**AGE**

6 Years

**WEIGHT**

11.1 kg

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

Erin Folk AH

**REFERRING VET**

Dr. Soliman

**INVOICE**

44286

**DATE**

1/17/23

Abnormal PE/Chem/CBC/UA Results: Rads - loss of detail and retained food in stomach.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**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.

The left kidney has a normal shape and size (4.91 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.

The right kidney has a normal shape and size (5.04 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.

**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.65 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.

The right adrenal gland is normal in size measuring 0.50 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.

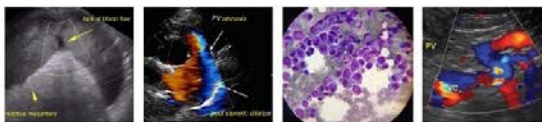
**Spleen**

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.

**Liver**

The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is mildly 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.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.



**PATIENT**

***Gastrointestinal***

Kitti Cruz

The stomach is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

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The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Duodenum wall measures 0.54 cm. Jejunum wall measures 0.37 cm. There is mucosal speckling visualized associated with the duodenum. 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, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

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**ULTRASONOGRAPHIC FINDINGS**

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- Decreased corticomedullary distinction in both kidneys – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.
- Large, 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. These findings are likely consistent with a diabetic hepatopathy.
- Subjectively thickened small intestine with mucosal speckling – Bright mucosal speckling has been postulated to represent dilated lacteals or focal accumulations of mucus, cellular debris, etc.. in the mucosal crypts.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There are no focal mass effects or significant lymphadenopathy to correlate with the lymphocytosis reported. There is some decrease in corticomedullary distinction noted. This could be an indicator of early renal disease, but if lab work, SDMA values, and urine concentrating ability is normal, then this could be an incidental finding.

Additionally, the liver is large and heterogeneous. Correlate this with bloodwork results. This can be a common finding in diabetic patients. You could consider a fine needle aspirate of the liver (provided coagulation parameters are normal) to rule out the possibility of infiltrative disease (round cell neoplasia) due to the lymphocytosis concerns.



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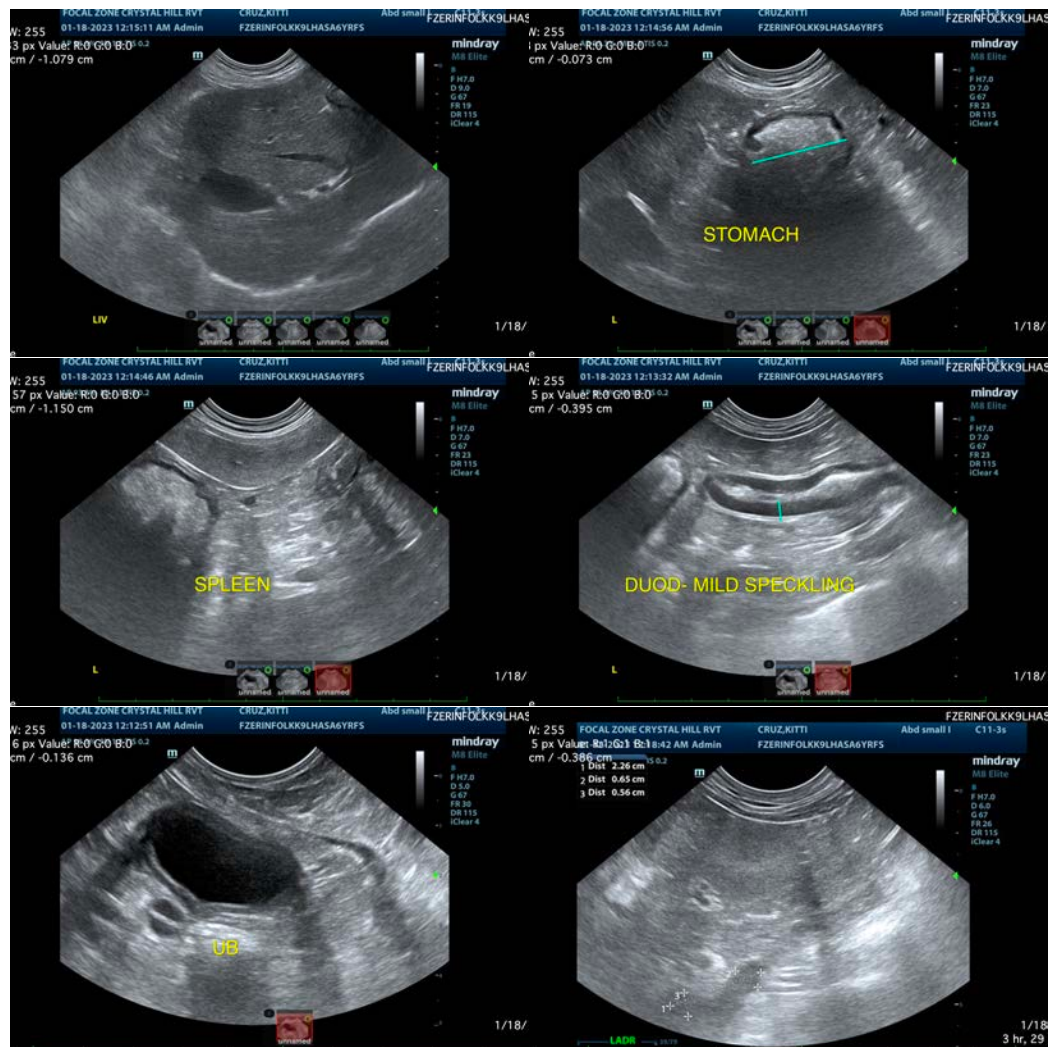
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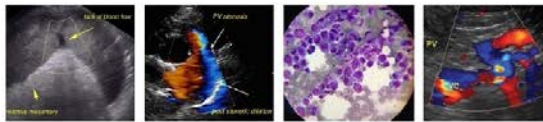
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The duodenum appears subjectively thickened with some mucosal speckling. Correlate this with the clinical signs. If there are signs of underlying gastrointestinal disease, this could be an indicator of a primary enteropathy and the need for further evaluation (GI panel, hypoallergenic diet, GI biopsies, etc.). If no GI signs are present, then the significance of this is unknown.

Recommend a pathologist review of a blood smear and likely a flow cytometry to further look for evidence of possible chronic lymphocytic leukemia.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.





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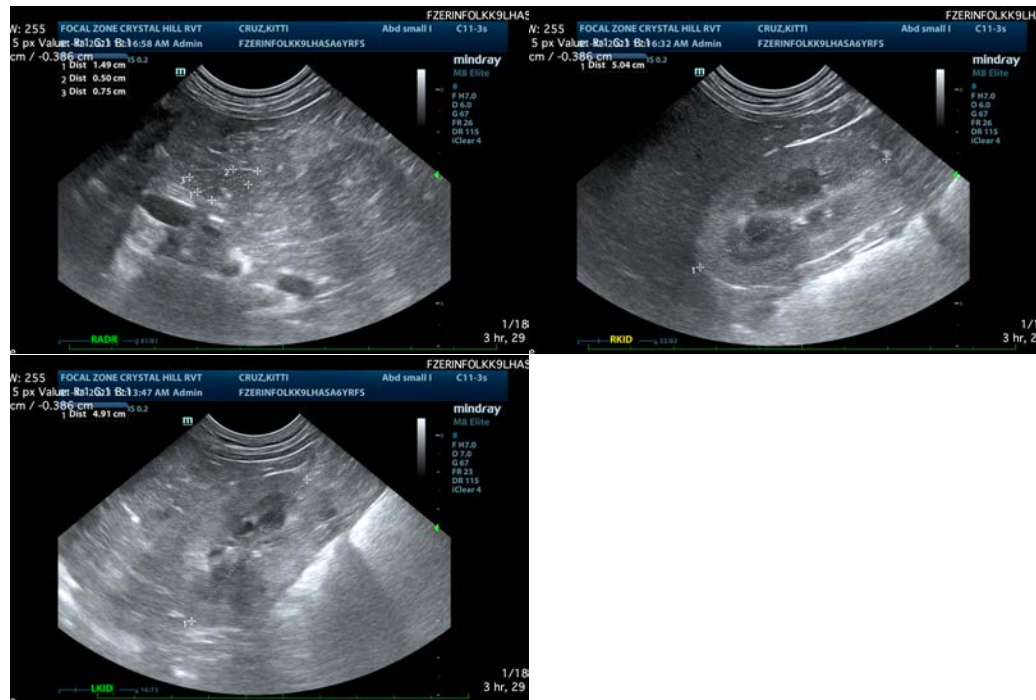
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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