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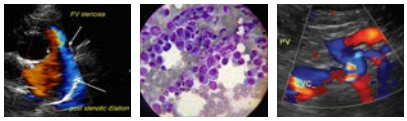

SonoPath

Clinical Sonography & Telecytology

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**DATE**

10/20/21

**PATIENT**

Nixie Cunningham

**SPECIES**

Canine

**BREED**

Goldendoodle

**SEX**

Spayed Female

**AGE**

2011

**WEIGHT**

90 Pounds

**INTERPRETED BY**

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

**HOSPITAL NAME**

Taylorsville Vet Clinic

**REFERRING VET**

Dr. Lucas

**INVOICE**

26512

## PRESENTING CLINICAL SIGNS

History: Not interested in food. Patient has Stage 2 Renal Disease.
Current Medications: Famotidine 20mg 2 tablets SID - started 10/16/21.
Denamarin Soft Chew - 3 tablets SID - started 9/2/2021.
Lab Results: elevated liver and kidney values, protein losing enteropathy.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not needed.
Stat Report: Not requested.

## 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 (7.9 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 (6.69 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 0.63 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 0.76 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. The spleen echotexture is heterogenous and mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There are numerous patchy, hypoechoic, ill-defined regions of the spleen noted.

### *Liver*

The liver is subjectively normal in size and irregular in shape. The parenchyma is mildly heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a large, bulging, isoechoic, irregular area on the right side of the liver, measuring approximately 8.65 cm x 7.76 cm. Additionally, there is a hypoechoic mass/nodule measuring 2.26 cm x 2.89 cm within the parenchyma of the liver.

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

### *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 measured 0.27 cm. Duodenum wall measured 0.38 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, 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.

## ULTRASONOGRAPHIC FINDINGS

- Heterogeneous liver with isoechoic bulging mass effect and hypoechoic intraparenchymal lesion – 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. The nature of the isoechoic mass lesion and hypoechoic mass lesion is not clear. These could be benign lesions or could be consistent with primary liver tumors, etc.

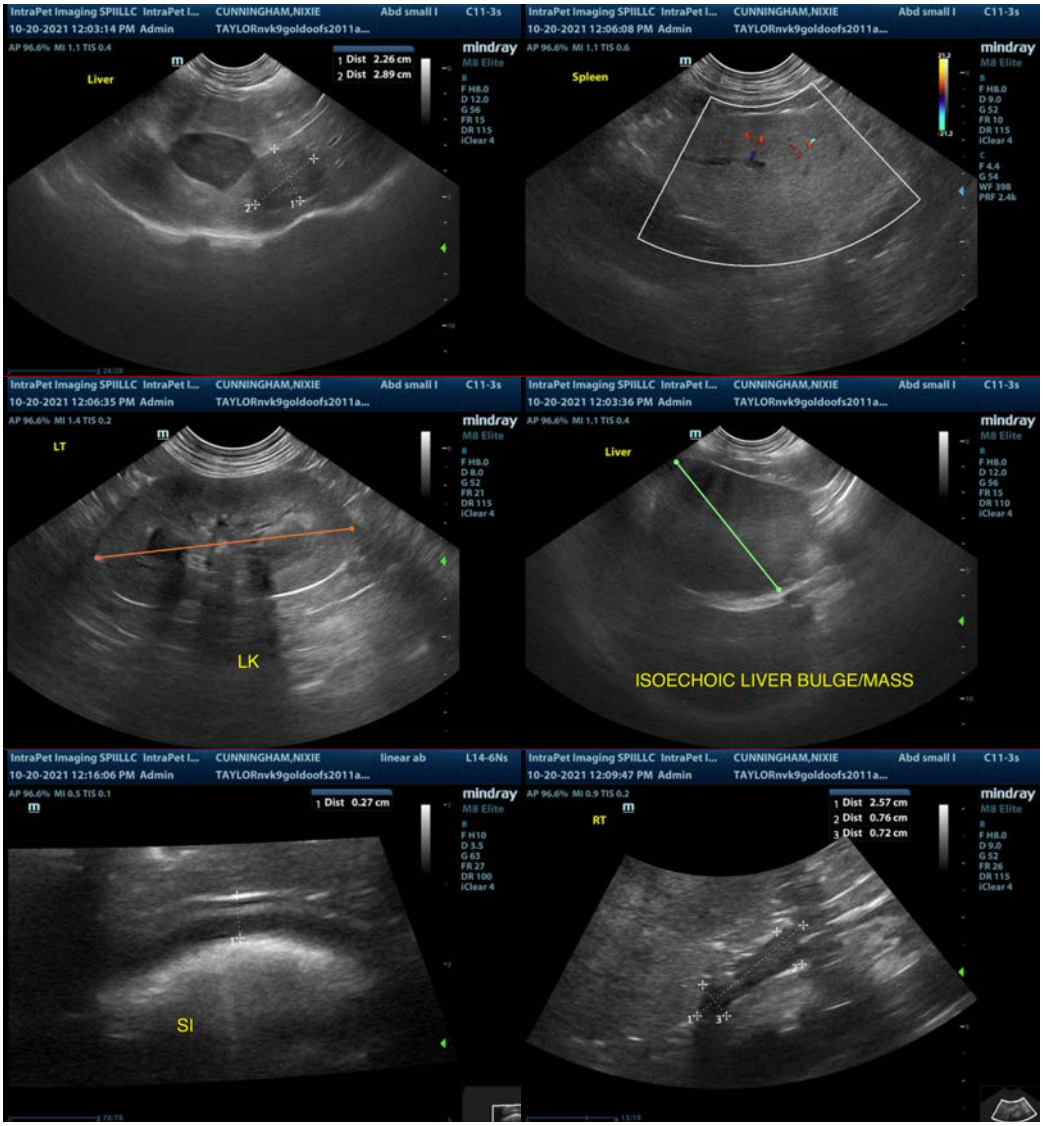
- Mottled spleen – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.

- Mildly decreased corticomedullary distinction both kidneys – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The nature of the hepatic lesions is unclear. You could consider a fine needle aspirate of the right irregular section of liver. This could be helpful in ruling out round cell neoplasia, although this would be an atypical presentation. Advanced imaging (CT scan) could be considered to further evaluate the location and extent of the mass and decide if biopsy or surgical intervention would be helpful. This must be considered in light of the renal disease present.

Consider further evaluation for the proteinuria and renal disease present, including blood pressure evaluation, tick borne disease testing, and 3-view thoracic radiographs. It is possible that the proteinuria is a result of the processes going on the liver, or it could be a primary disease process. If this patient is not hypertensive, consider conservative therapy for proteinuria with close monitoring of renal values.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Liver
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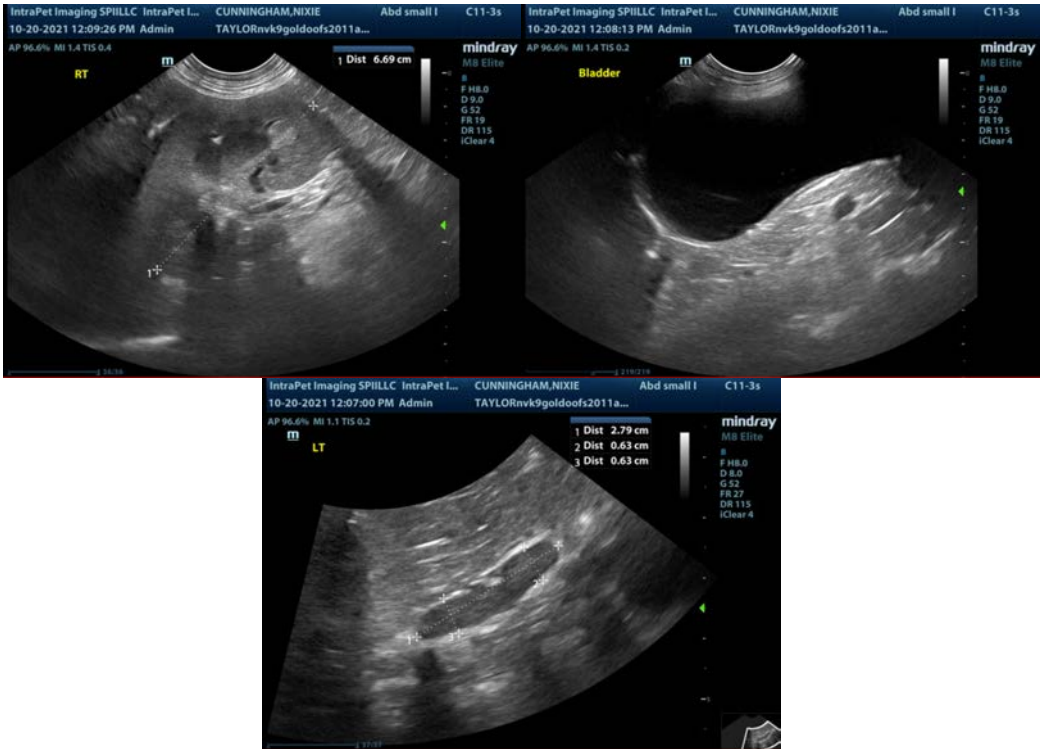
RT
1 Dist 2.57 cm
2 Dist 0.76 cm
3 Dist 0.72 cm




**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.

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