



**PATIENT**

Ricky Senger

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Neutered Male

**AGE**

14 Years

**WEIGHT**

18 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging Michigan

**REFERRING VET**

Rochester VH

**INVOICE**

17783

**DATE**

10/17/22

**PRESENTING CLINICAL SIGNS**

History: Constipation and weight loss.

Abnormal PE/Chem/CBC/UA Results: Recently diagnosed with CKD. Please see attached.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Urinary bladder is adequately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Kidneys are normal in size, irregular and diffusely echogenic with decreased corticomedullary distinction and poor visualization of internal architecture. There is no pyelectasia noted in the left kidney. Mild pyelectasia was noted in the right kidney. The left kidney measures 4.26 cm. The right kidney measures 3.88 cm. Nonobstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted bilaterally.

**Adrenal Glands**

Left adrenal gland is normal in size (0.45 cm), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (0.45 cm), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**Spleen**

Spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). Multifocal well-demarcated hyperechoic homogenous nodules are noted. Splenic vasculature appears normal.

**Liver**

Liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

**Gastrointestinal**

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestine demonstrates areas of mildly thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio), most noted in the ileum. Small intestinal submucosa is slightly irregular, thick and hyperechoic, without evident loss of layering appreciated. The lumen of the small intestine is empty with no evidence of obstruction or foreign material.



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Ricky Senger The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

**SPECIES**

***Pancreas***

Feline

Pancreas is prominent in size with swollen irregular contour. Parenchyma is heterogenous characterized by hyperechoic tissue remodeling intermixed with ill-defined hypoechoic nodules. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

**BREED**

***Free Abdomen***

DSH

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

**SEX**

**ULTRASONOGRAPHIC FINDINGS**

Neutered Male

**Primary Findings**

**AGE**

14 Years

- Chronic Kidney Disease with mild pyelectasia in the right kidney – This appearance of the kidneys is consistent with chronic kidney disease such as chronic glomerular or interstitial nephritis, chronic pyelonephritis, etc.
- Inflammatory bowel disease (IBD) pattern – Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. No aggressive lymphadenopathy, loss of layering, etc. is noted to make lymphoma more probable, but lymphoma cannot be definitively ruled out without tissue sampling.

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- Pancreatic nodular hyperplasia – Infiltrative neoplasia cannot be ruled out but is considered less likely.

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**Secondary Findings**

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- Hyperechoic splenic nodules – most consistent with benign myelolipomas. Other differentials such as fibrosis or calcification caused by old hematomas or infarcts, chronic inflammation, granulomatous disease or metastatic disease cannot be ruled out, but are considered less likely.

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- Gallbladder debris – Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness, however, it can also be associated with hepatobiliary disease in cats and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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Given the recent onset of azotemia, combined with mild proteinuria, a urine protein to creatinine ratio is recommended if not recently evaluated to quantify the amount of proteinuria to help guide treatment. A blood pressure is also recommended if not recently evaluated.

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A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

In the meantime, given the report of concurrent constipation, beginning medical management of the



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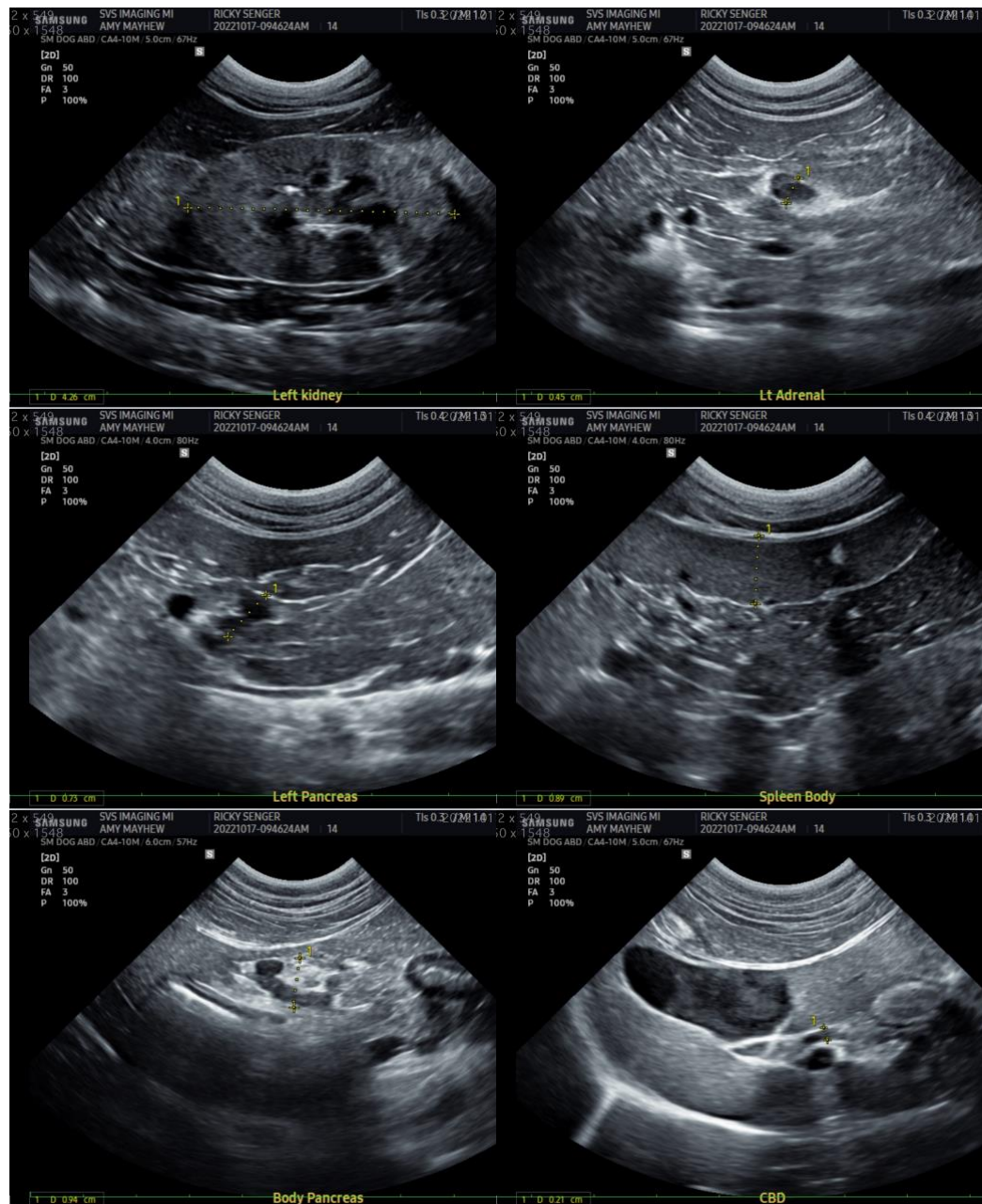
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kidney disease, including hydration support with either the addition of water to food or even subcutaneous fluid therapy at home, combined potentially with stool softener, may help address the clinical signs of constipation, if they're secondary to mild subclinical dehydration caused by the kidney disease. Diet therapy for this patient could include a transition to a fiber response or colitis diet given the constipation, or given the onset of chronic kidney disease, a renal diet may be more appropriate, potentially with the addition of fiber, such as Metamucil to the food, or if gastrointestinal signs, such as vomiting, diarrhea and/or weight loss persist, given the mild changes suggestive of infiltrative or inflammatory bowel disease, transition to a hydrolyzed diet may be more appropriate. Diets should be assessed on a clinical trial and error basis based on the primary clinical problem.





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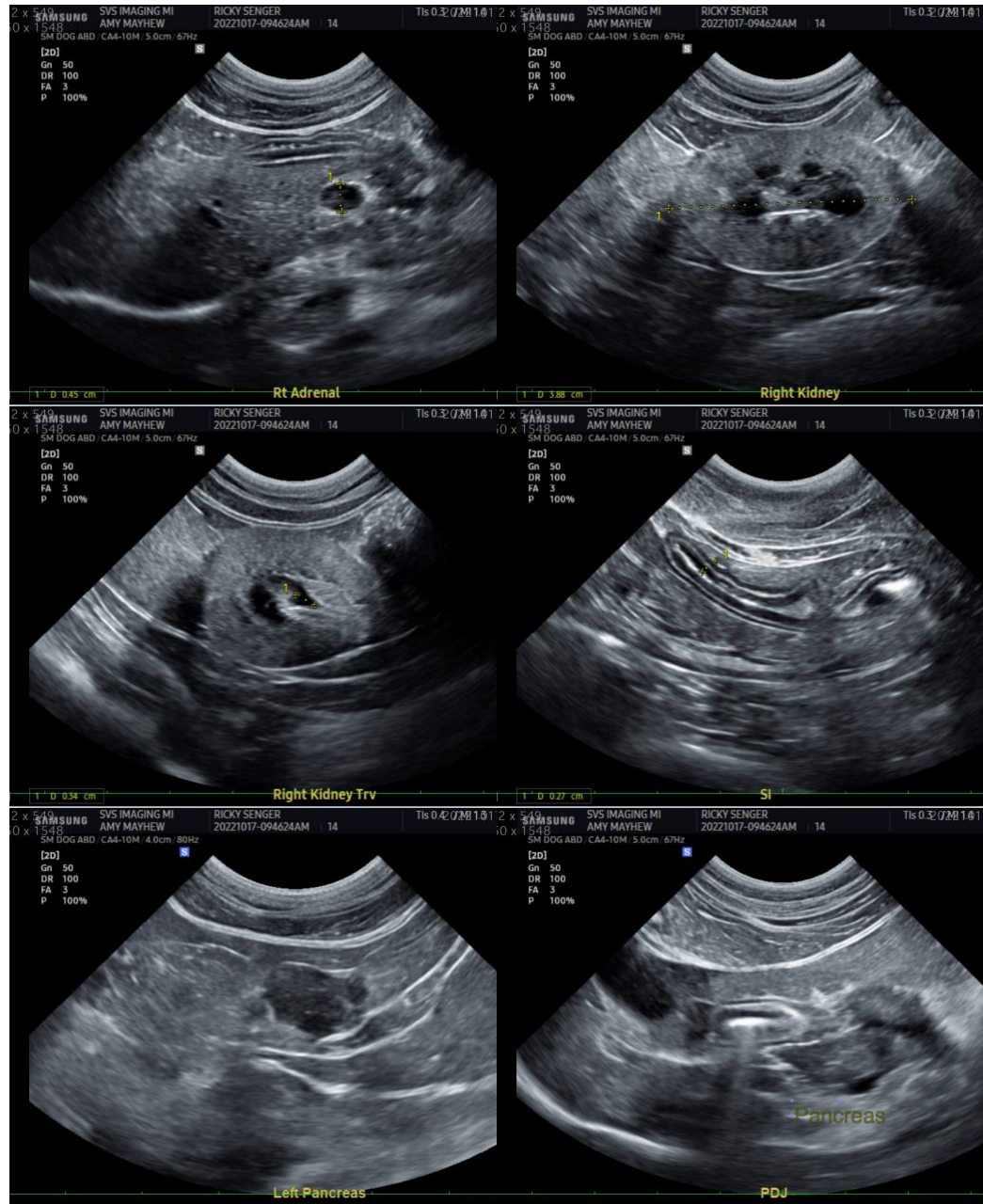
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Beth Johnson, DVM DACVIM**

Beth.Johnson@SonoPath.com



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