**PATIENT**

Tony Tiger Vandersys

**SPECIES**

Feline

**BREED**

Exotic Shorthair

**SEX**

Neutered Male

**AGE**

5.5 Years

**WEIGHT**

10.5 Pounds

**INTERPRETED BY**Kathleen Sennello DVM,  
MS, Diplomate ACVIM  
(Small Animal Internal  
Medicine)**IMAGING  
PERFORMED BY**

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging MI

**REFERRING VET**Cat Care of Rochester  
Hills**INVOICE**

37261

**DATE**

4/28/22

**PRESENTING CLINICAL SIGNS**

Chronic bouts of vomiting, mildly thickened intestines on palpation Exam findings and abnormal lab values: Will email blood work results- low protein levels borderline/grey zone PLI (4.5)  
Abnormal PE/Chem/CBC/UA Results: Please see attached BW for review. GI panel submitted today.

**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 (3.83 cm). Overall echogenicity is normal with adequate 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 (3.53 cm). Overall echogenicity is normal with adequate 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 0.29 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 0.29 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.

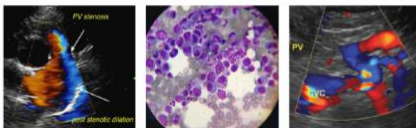
**Spleen**

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 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. There is a cystic, thick, irregular walled structure visualized in the cranial abdomen, measuring approximately 1.8 cm in diameter. This lesion in some views appears to be hepatic in origin, but in other views could conceivably contact the cranial portion of the pancreas, which is significantly abnormal.

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 dilated and tortuous, measuring at approximately 0.35 cm a few cm distal to the gallbladder. No obvious stones or obstructive lesions are present, but as you enter the cranial abdomen, there is inflammation associated with the pancreas, and the duodenum is somewhat thick walled, making a distinct duodenal papilla difficult to visualize.

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**Gastrointestinal**

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.36cm 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 uniform diameter with minimal fluid distension. Wall thickness is normal to slightly increased. Bowel loops follow a typical curvilinear path with distinct wall layering, but some areas display a prominent muscularis layer which does not display the typical 1:3 muscularis:mucosa layer ratio. Jejunum wall measured 0.30 cm. Duodenum wall measured 0.28 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**

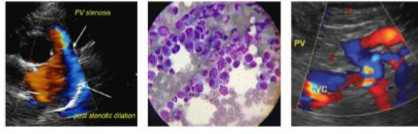
The pancreas is large and hypoechoic as compared to the surrounding isoechoic mesentery. There are numerous hypoechoic cystic/nodular lesions measuring from approximately 0.20-0.70 cm. There is evidence of regional surrounding mesenteric inflammation, consistent with moderate pancreatitis. Additionally, in the cranial abdomen there is a thick walled, irregular cystic structure measuring approximately 1.8 cm in diameter, which could be consistent with a pancreatic cyst, abscess, or hepatic lesion.

**Free Abdomen**

There is scant free abdominal fluid. No lymphadenopathy. The omentum is of increased echogenicity in the cranial abdomen in the region of the pancreas.

**ULTRASONOGRAPHIC FINDINGS**

- Thick, irregular walled cystic structure in the cranial abdomen – This lesion would be most consistent with a pancreatic or hepatic cyst/abscess.
- Heterogeneous liver – Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis or other hepatopathy.
- Prominent, hypoechoic pancreas with hypoechoic nodules/cystic structures – Findings could be consistent with neoplastic lesions, nodular hyperplasia, less likely small abscesses, etc. Findings are most consistent with moderate pancreatitis, and sampling of the lesions will be necessary to further delineate.
- Dilated, tortuous common bile duct – Dilation of the common bile duct could be consistent with a functional obstruction (i.e. primary hepatic disease resulting in hepatocellular swelling) or with an extrahepatic bile duct obstruction (ie. choledocholith, bile duct tumor, pancreatic disease, other). This dilation could be secondary to the pancreatic disease present or disease involving the proximal duodenum/duodenal papilla.
- Prominent muscularis layer to the small intestine – The small intestinal wall changes are most consistent with an inflammatory process (i.e., inflammatory bowel disease) with a low possibility of emerging lymphoma.



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- Small volume free abdominal fluid

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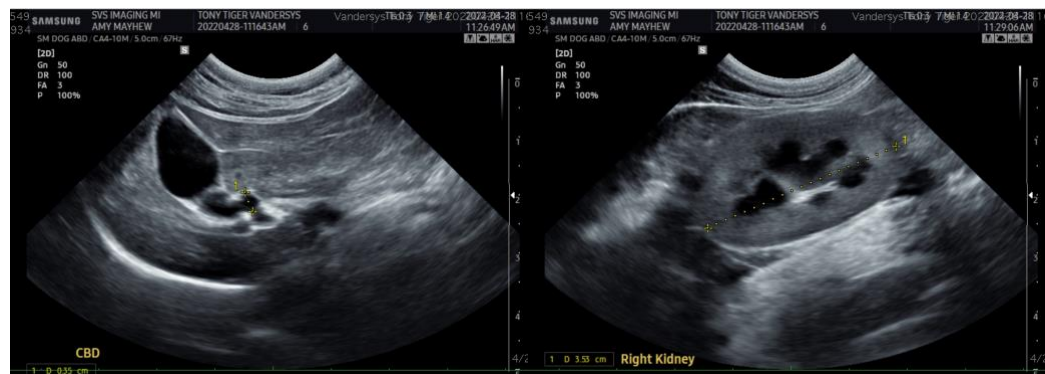
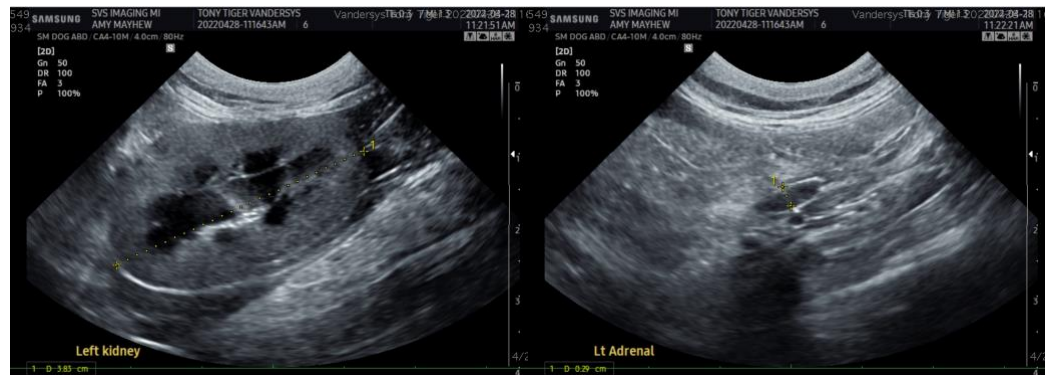
4/28/22

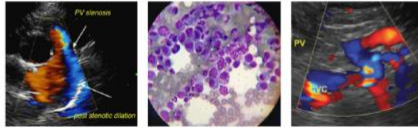
**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The pancreas is large and hypoechoic, and has numerous focal, hypoechoic lesions, which would be most consistent with small nodules or cysts/abscesses. Additionally, there is a larger, thick walled cystic structure in the cranial abdomen, most consistent with either a hepatic or pancreatic cyst/abscess. Consider a fine needle aspirate of the pancreas as well as drainage of the larger cranial abdominal cystic structure with fluid analysis, cytology +/- culture if this is an abscess. Sometimes running an Amylase or Lipase on the fluid can help to delineate if this is pancreatic in nature.

Based on the low albumin levels, I suspect there is a protein losing enteropathy present, although running a liver function test and urine protein/creatinine ratio would help to rule out other sources of protein loss. In general, there is a prominent muscularis layer, which can be an indicator of inflammatory disease, but in the region of the pancreas and cranial abdomen, the proximal duodenum is difficult to clearly visualize. This could be due to secondary inflammation from the pancreas or due to primary small intestinal disease in this area. If at all possible, I would recommend trying to obtain a diagnosis on this patient rather than empirically treating with steroids, as this could be infectious, inflammatory, or neoplastic change, and a diagnosis will be crucial in appropriate treatment.

- Consider a GI panel to Texas A&M for a qualitative fPLI, TLI, cobalamin and folate (this is pending, which is excellent).
- Recommend treatment for pancreatitis/gastroenteritis.
- Recommend 3-view thoracic radiographs.
- As recommended above, consider a fine needle aspirate of the pancreas, draining the cystic structure, and a fine needle aspirate of the liver.





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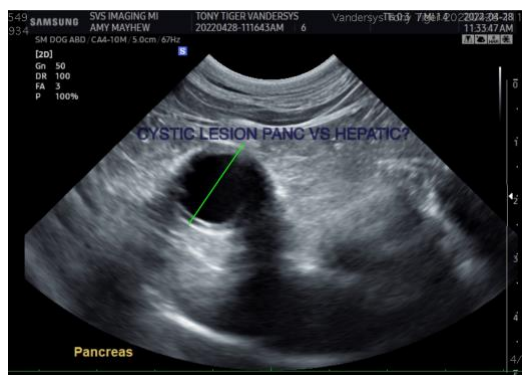
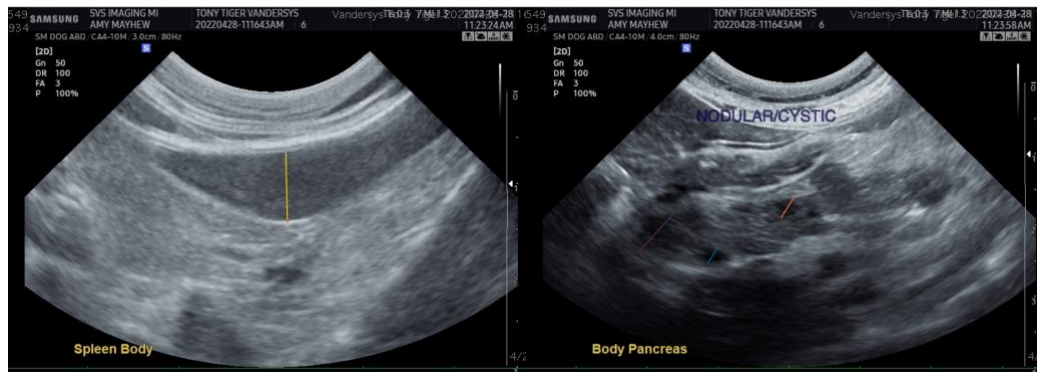
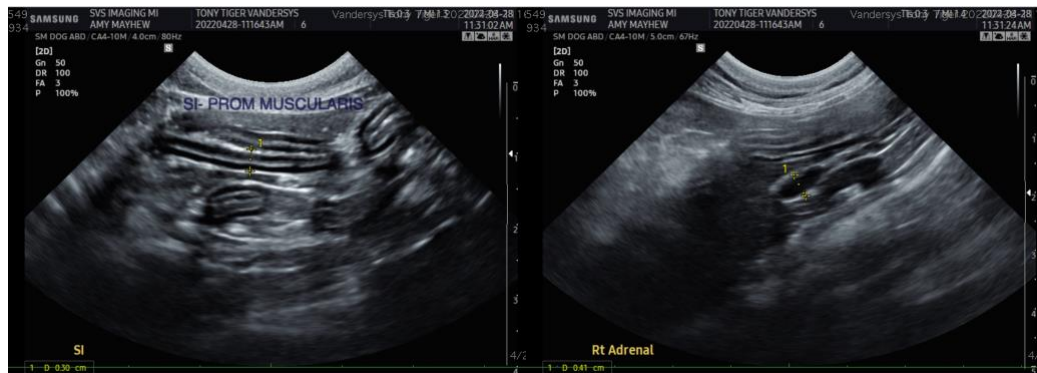
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

kathleen.sennello@sonopath.com