

**PATIENT PRESENTING CLINICAL SIGNS**

Demetris Shaffer

1. Gastroenteritis (acute vomiting/diarrhea) 2. Hx emerging hyperthyroid disease - treating with felimazole (recently decreased from BID to SID dosing due to T4 <0.5) 3. Hx otitis externa and vestibular disease - Resolved Current Medications Cerenia, Mirataz, Started Metronidazole (started 4/19/23)

**SPECIES**

Feline

Radiographic Findings Whole Body Radiographs No specific findings - The cardiac silhouette appears normal within the chest with no abnormal lung patterns. The abdomen has good serosal detail with some air in the stomach (empty) but normal silhouettes of the kidneys, liver, bladder and small intestines with no abnormal gas opacities. The colon is empty. The vertebral structures show bridging spondylosis at L6-L7 and L7-S1 (lesions also starting at L3-L4 and L4-L5) which are likely secondary to chronic arthritis.

**BREED**

DMH

Primary Question/Differential to Be Answered in This Exam IBD vs neoplasia vs other pathologies for vomiting/diarrhea

**SEX**

Spayed Female

Abnormal PE/Chem/CBC/UA Results: CBC - WNLs, good hemogram/leukogram/thrombogram Comprehensive - BUN 39.3 (H; r/o pre-renal vs. renal), creat normal at 1.6, GLUC 176 (H; stress likely), TCHOL 225 (H; r/o secondary to renal vs. transient cause), ALT 464 (H; likely from vomiting; other liver values are WNLs) Lytes - WNLs SDMA - WNLs now at 12 (improved vs. last time) T4 - Very low at <0.5

**AGE**

13 Years

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**WEIGHT**

8.2 Pounds

**Urinary System**

The urinary bladder is moderately 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.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of mineral or infarcts observed. The left kidney measures 3.77 cm. The right kidney measures 3.81 cm. Mild pyelectasia is present bilaterally.

**IMAGING PERFORMED BY**

Jenna Walsh, CVT

**Adrenal Glands**

The right adrenal gland is normal in size (0.48 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**HOSPITAL NAME**

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The left adrenal gland is normal in size (0.45 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**REFERRING VET**

Dr. Berman

**Spleen**

The 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). No focal nodules or masses are observed. Splenic vasculature appears normal.

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**Liver**

Liver is subjectively enlarged (swollen contour). Mild parenchymal remodeling with diffusely mildly coarse architecture and increased portal markings is present. No focal nodules or masses are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

**DATE**

4/20/23



<b>PATIENT</b>	The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. The cystic and common bile duct are tortuous in shape without pathologic distention. This is often a normal anatomic variant in cats. However, it can also be associated with chronic or resolved or even acute smoldering cholangitis. This finding should be interpreted in combination with clinical signs and/or laboratory changes that support it.
Demetris Shaffer	
<b>SPECIES</b>	
Feline	<b><i>Gastrointestinal</i></b>
<b>BREED</b>	The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.
DMH	
<b>SEX</b>	The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.
Spayed Female	
<b>AGE</b>	The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.
13 Years	<b><i>Pancreas</i></b>
<b>WEIGHT</b>	Pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and has a mildly irregular undulating contour. Parenchyma is coarse with mixed echogenic remodeling noted. Pancreatic duct dilation is noted.
8.2 Pounds	
<b>INTERPRETED BY</b>	<b><i>Free Abdomen</i></b>
Beth Johnson, DVM DACVIM	There is no evidence of free peritoneal effusion noted in these images.  There is no apparent lymphadenopathy noted in these images.
<b>IMAGING PERFORMED BY</b>	<b>ULTRASONOGRAPHIC FINDINGS</b>
Jenna Walsh, CVT	<ul style="list-style-type: none"> <li>• Chronic active pancreatitis</li> <li>• <b>Hypoechoic hepatomegaly</b> – This appearance is consistent with an acute hepatopathy or acute cholangiohepatitis. Infiltrative neoplasia (round cell neoplasia) should also be considered.</li> <li>• <b>Mildly tortuous common bile duct</b> – This finding should be interpreted in combination with clinical signs and/or laboratory changes that suggest an ongoing process versus normal anatomic variant.</li> <li>• Age related kidneys changes with minor bilateral pyelectasia.</li> </ul>
<b>HOSPITAL NAME</b>	<b>INTERPRETATION OF THE FINDINGS &amp; FURTHER RECOMMENDATIONS</b>
The Veterinary Hospital	There is not an obvious/definitive ultrasonographic explanation for this patient's vomiting. Pancreatic and/or gastrointestinal disease, however, can contribute to clinical signs without significant ultrasound changes. Therefore, further evaluation of digestion and absorption could be considered, beginning with:
<b>REFERRING VET</b>	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.
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**WEIGHT**

8.2 Pounds

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DACVIM

**IMAGING PERFORMED BY**

Jenna Walsh, CVT

**HOSPITAL NAME**

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**REFERRING VET**

Dr. Berman

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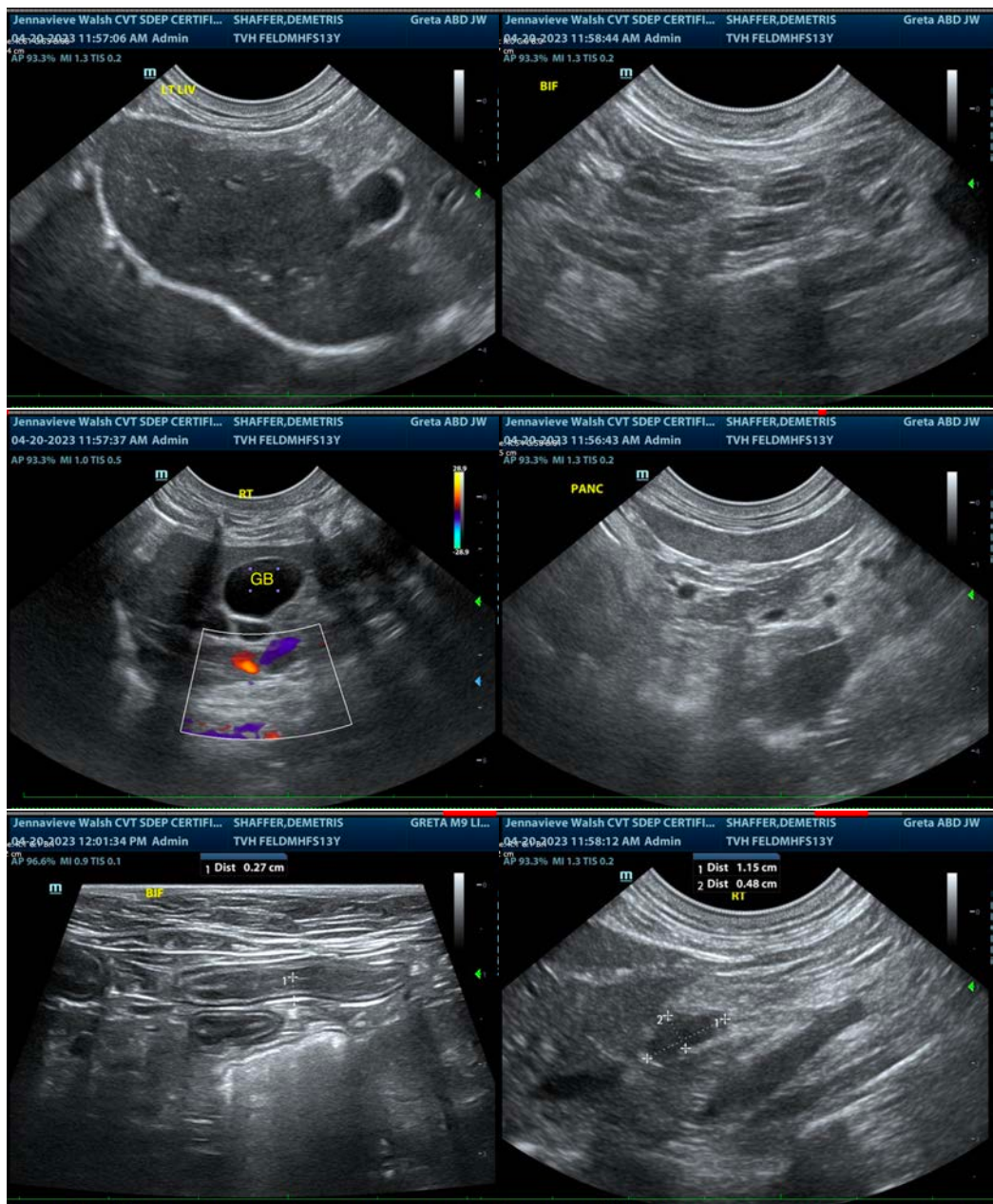
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Additionally, given this patient's reported mildly increased ALT, chronic smoldering cholangiohepatitis could be contributing, and recommendations include a fine needle aspirate of the liver if patient's coagulation status is appropriate, followed by supportive/symptomatic medical management of clinical signs, so antiemetics, gastroprotectants, etc. as well as hepatic nutraceuticals such as Ursodiol and/or Denamarin and potentially broad-spectrum antibiotics with monitoring of both ALT and clinical signs for improvement.

Additionally, even though the vomiting was reported to have been going on prior to treating the hyperthyroidism, a transition from oral to transdermal medication could be considered, as oral can be associated with gastrointestinal upset.





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**REFERRING VET**

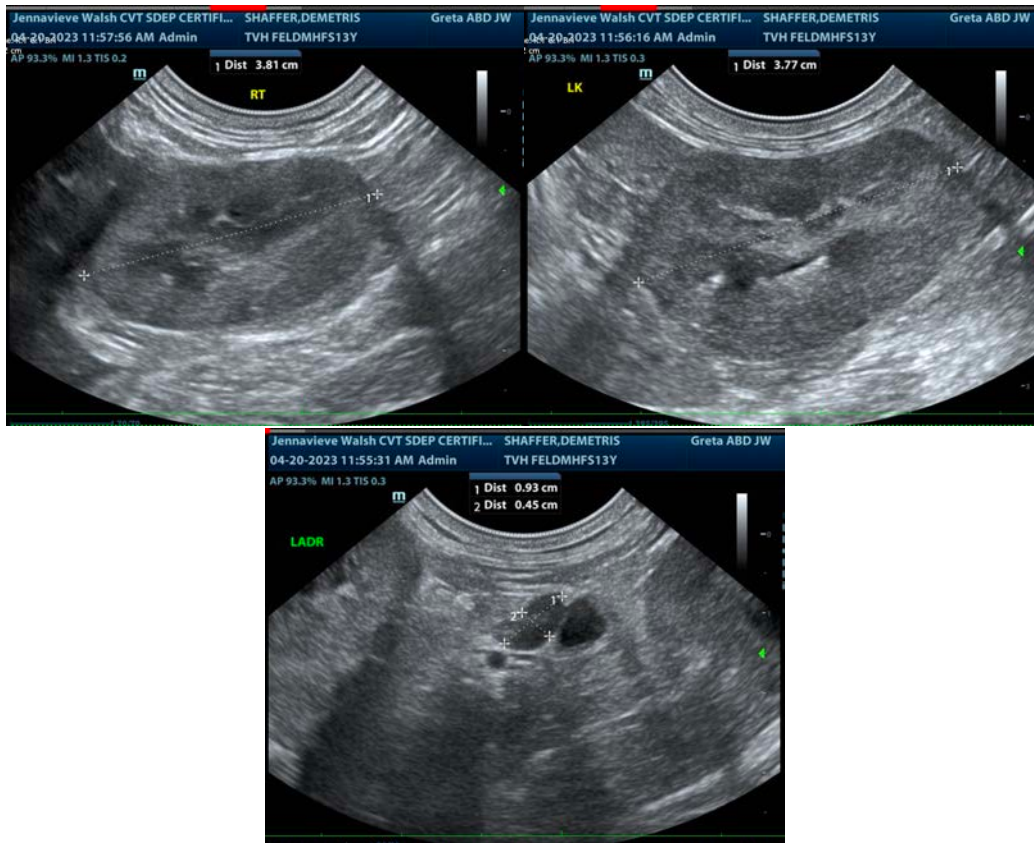
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Beth Johnson, DVM, DACVIM**  
Beth.Johnson@sonopath.com