



PATIENT

Teddy Steudler

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Neutered Male

AGE

14 Years

WEIGHT

8.8 Pounds

INTERPRETED BY

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

**IMAGING
PERFORMED BY**

Jack Reese

HOSPITAL NAME

Willow Run VC

REFERRING VET

Dr. Anna Leppien

INVOICE

43465

DATE

12/14/22

PRESENTING CLINICAL SIGNS

Recurrent vomiting - owner reports that P vomits every 1-2 days, typically when excited at home. Teddy has a history of protein-losing enteropathy, previously treated with prednisone and Vitamin B12 injections. Currently feeding Purina EN and being treated with pimobendan and Apoquel by owners at home.

Abnormal PE/Chem/CBC/UA Results: Recent bloodwork profile unremarkable.

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 (4.34 cm) with mild pyelectasia at 0.24 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 is small, measuring 1.67 cm in width. Minimal typical renal architecture. There is a moderate sized hypoechoic cyst associated with the structure measuring 0.86 cm. Findings are consistent with a dysplastic or atrophied kidney.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.62 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 0.63 cm at the cranial pole, 0.51 cm at the caudal pole, and 1.9 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. The cranial pole appears slightly irregular and is difficult to visualize in its entirety. There is no evidence of vascular invasion visualized.

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. There is a hyperechoic nodule visualized within the splenic parenchyma measuring 0.43 cm.

Liver

The liver is subjectively normal in size, and 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. There are numerous, somewhat ill-defined, hypoechoic nodules throughout the hepatic parenchyma. Examples of these measure 0.61 cm, 0.54 cm, 0.56 cm, and 1.34 cm in diameter.

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.



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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.

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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. Jejunum wall measures 0.28 cm. Duodenum wall measures 0.40 cm. Mucosal speckling is noted associated with the duodenum. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with nonformed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

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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.

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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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PRIMARY FINDINGS

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- Decreased corticomedullary distinction in the left kidney with mild pyelectasia – The bilateral renal findings are consistent with age-related change. Pyelectasia of the kidney(s) could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Small, irregular right kidney with minimal normal architecture and a cortical cyst – Findings are most consistent with a dysplastic kidney or an atrophied fibrosed kidney.
- Heterogeneous liver with numerous hypoechoic nodules – 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 nodules observed trend toward a more benign process but underlying neoplasia cannot be ruled out.
- Subjectively thickened small intestine with mucosal speckling evident in the duodenum – Bright mucosal speckling has been postulated to represent dilated lacteals or focal accumulations of mucus, cellular debris, etc.. in the mucosal crypts.
- Hyperechoic nodule in the spleen – Findings are most consistent with a benign nodule – Continued monitoring is warranted.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A focal lesion responsible for the vomiting reported is not observed. The small intestine does appear subjectively diffusely thickened with mucosal speckling in the duodenum. This can be an indicator of a primary enteropathy. Consider the following:



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- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks)
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc.. to further evaluate for pancreatic/small intestinal disease.

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- Recommend chronic probiotic therapy.
- Recommend symptomatic treatment for acute gastroenteritis/pancreatitis.

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- Recommend 3-view thoracic radiographs to look for concurrent intrathoracic disease and to evaluate the esophagus.

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Neutered Male

The left kidney is borderline large in size with reduced detail of corticomedullary distinction and mild pyelectasia. The right kidney appears shrunken with minimal normal detail and a large cortical cyst. Recommend a blood pressure evaluation, urinalysis and culture for baseline evaluation.

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The liver is heterogeneous and there are ill-defined hypoechoic nodules throughout the parenchyma. The appearance of these nodules trends towards a benign appearance, but underlying neoplasia cannot be ruled out. Options moving forward would include full bloodwork, a liver function test, and possibly a fine needle aspirate of the liver (provided coagulation parameters are normal).

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The cranial pole of the right adrenal gland appears somewhat irregular and was difficult to fully visualize. Consider continued monitoring for progression of the irregular appearance in this region.

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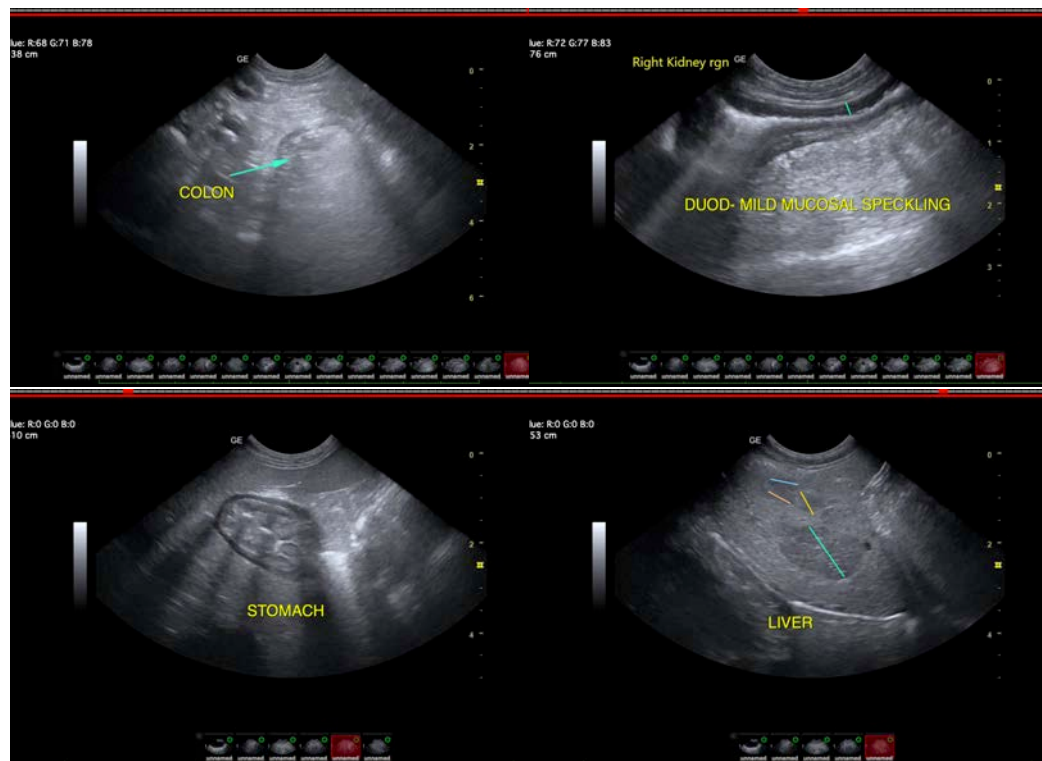
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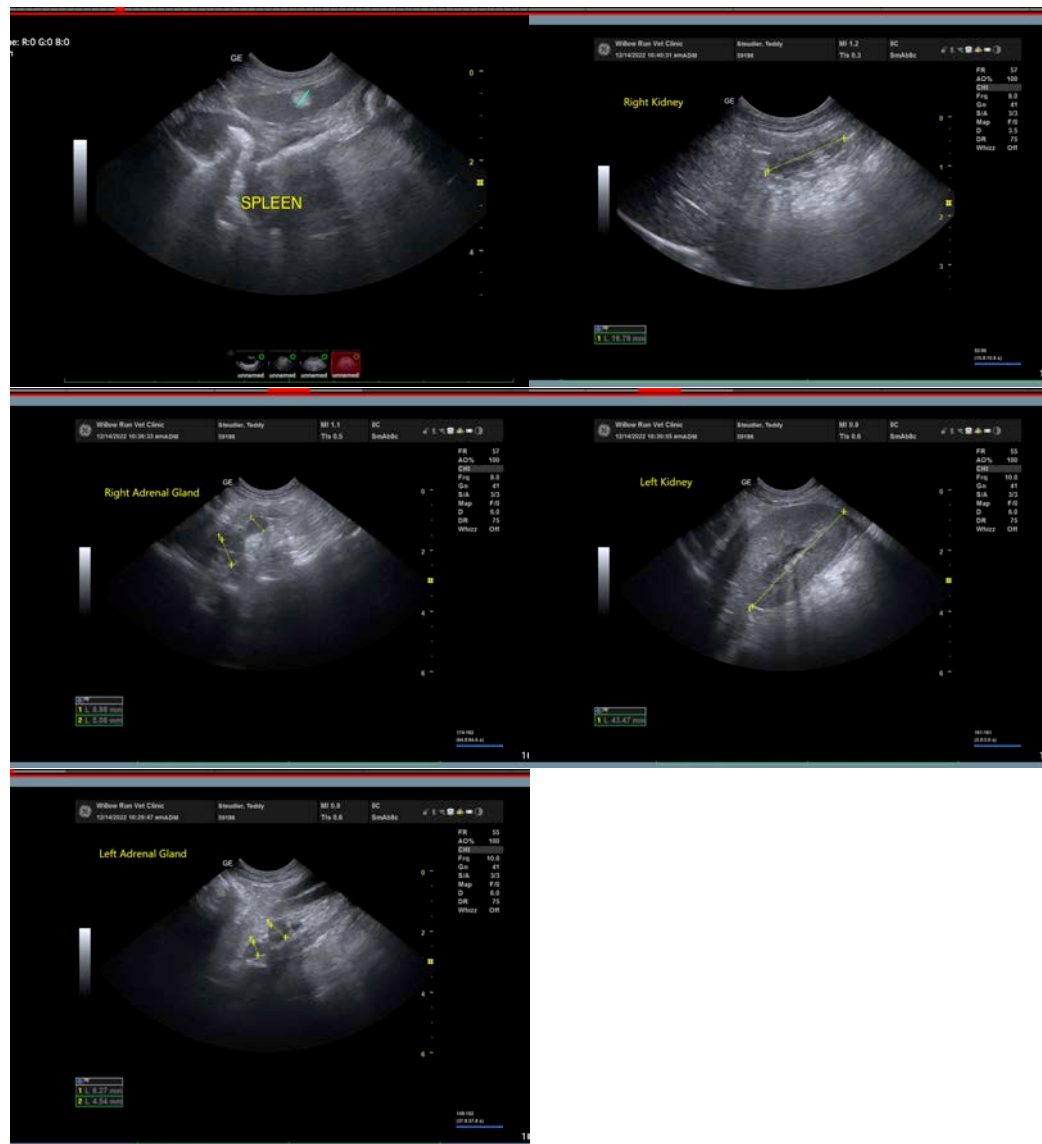
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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