



## PATIENT

Leia Santiago

## SPECIES

Canine

## BREED

Mixed

## SEX

FS

## AGE

12 years

## WEIGHT

14.6 lbs

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Dr. Gabriel Ferrer

## HOSPITAL NAME

Pulse Pet Ultrasound  
Services

## REFERRING VET

Dr. Jenniffer Walker

## INVOICE

11660

## DATE

4/9/2026

## PRESENTING CLINICAL SIGNS

Px presented as a referral for an abdominal ultrasound due to persistent episodes of vomiting. Px originally visited rDVM due to having an episode of vomiting with blood and then regurgitating the food she had consumed at the moment. rDVM prescribed Famotidine, Cerenia, and Sucralfate. Owner reports that Px was doing better after starting Mx, but there were still some sporadic episodes of vomiting. Owner reports that Px is lethargic during the episodes of vomiting. No diarrhea, coughing, sneezing, or abnormal food/water intake reported by owner.

Abnormal PE/Chem/CBC/UA Results: Bloodwork and radiographs attached below for your reference.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The urinary bladder is moderately distended with mild primarily suspended echogenic debris present. 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 calculi. Echogenic debris of this type can be associated with small crystals, cellular debris and proteinaceous debris.

The left kidney has a normal shape and size. 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 mild pyelectasia measuring 0.2 cm. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.43 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.

### Adrenal Glands

The left adrenal gland is normal in size and shape, irregular in appearance, measuring 0.53 cm at the cranial pole and 0.63 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is abnormal in appearance in that there is a small, hyperechoic nodule in the caudal pole measuring 0.45 cm x 0.52 cm. This does not deform the adrenal capsule.

The right adrenal gland is normal in size measuring 0.51 cm at the cranial pole and 0.58 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 (1.74 cm) and the echotexture is homogenous. The splenic capsule is smooth with no visible irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There's a small hyperechoic nodule in the parenchyma measuring 0.28 cm most consistent with benign myelolipoma. Additionally, there are other occasional ill-defined hypoechoic nodules in the parenchyma. Examples measure 0.38 cm and 0.49 cm.

### Liver



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The liver is subjectively large in size, and normal in 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. No focal nodules or cystic lesions are observed.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

### **Gastrointestinal**

The stomach is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. It measures at a normal thickness of 0.26 cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layering is adequate and there is no impression of reduced peristaltic activity. The intraluminal fluid/ingesta may interfere with full evaluation of the stomach.

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. The duodenum measured as normal (0.54 cm in wall thickness) and the jejunum measured as normal (0.36 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 visibly/mildly mottled in both limbs. 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. There is a mild mesenteric lymphadenopathy with clusters of prominent hypoechoic lymph nodes. AN example of a mesenteric lymph node measures 0.46 cm. The omentum is of normal uniform echogenicity.

## ULTRASONOGRAPHIC FINDINGS

- Suspended echogenic debris in the urinary bladder. The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus. Recommend urinalysis and culture
- Hyperechoic nodule in the caudal pole of the left adrenal. This currently has a benign appearance (adenoma, focal hyperplasia, etc.) although an early neoplastic lesion cannot be ruled out.
- Mild age related changes visualized associated with both kidneys.
- Ill-defined hypoechoic nodules in the spleen. There are several, non-cavitated, hypoechoic splenic nodules visualized. Differentials include lymphoid hyperplasia, extramedullary



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hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.

- Pancreatic changes most consistent with chronic pancreatic remodeling.
- Subjectively, mildly heterogenous liver. The significance of this is uncertain in the absence of liver enzyme elevations. Mild age-related changes suspected.
- Moderate gallbladder debris. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.
- Moderate fluid/ingesta distension of the stomach. Findings could be consistent with gastric ileus. A partial out flow tract obstruction is less likely but cannot be definitively ruled out.
- Occasional mildly reactive mesenteric lymph nodes.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A definitive cause for the vomiting is not observed on today's exam. The stomach is moderately fluid distended despite inadequate fast indicating possible ileus or less likely an unseen partial outflow tract obstruction or similar. Unfortunately, you can still have a significant gastroenteropathy with relatively normal appearing stomach and GI tract. Additionally, consider the possibility of regurgitation playing a role in the symptoms. Recommend the following:

- 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.
- Recommend three view thoracic radiographs to evaluate the esophagus and thoracic cavity for any pathology.

If symptoms are persistent, ultimately, biopsies of the GI tract may be warranted. Initially, you could consider upper GI endoscopy to evaluate the esophagus, stomach, and proximal GI tract and obtain biopsies.

There's mild suspended echogenic debris in the urinary bladder. Recommend a urinalysis +/- culture.

There's a hyperechoic nodule in the caudal pole of the left adrenal. The significance of this is uncertain. This could be incidental. If signs of Cushing's are present, you could consider adrenal function testing. Additionally, recommend a blood pressure evaluation. If hypertension is present, consider measuring catecholamine levels looking for a possible pheochromocytoma.

There are multiple, ill-defined hypoechoic nodules in the spleen. Consider a fine needle aspirate for a further evaluation and continued monitoring with ultrasound.



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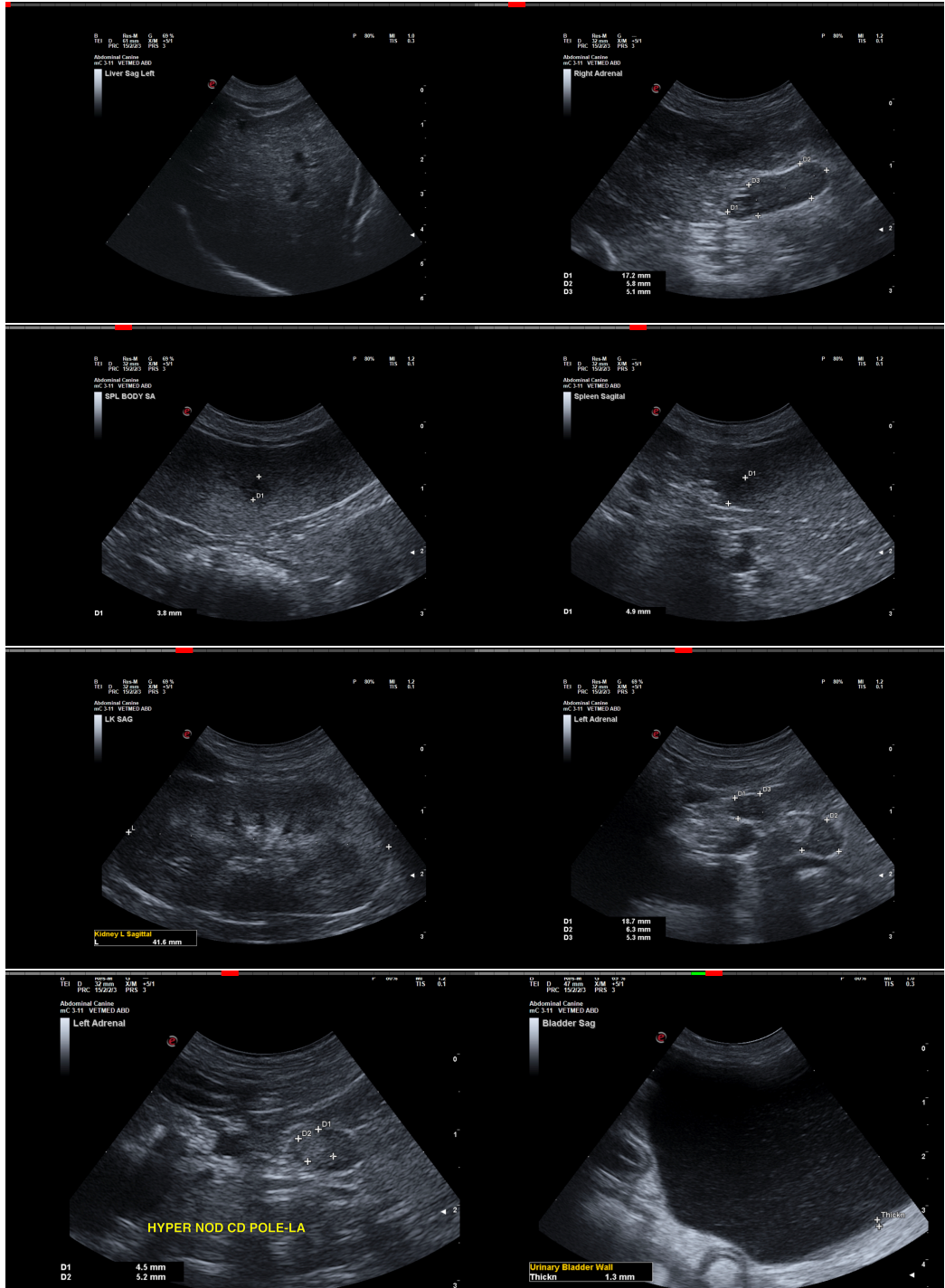
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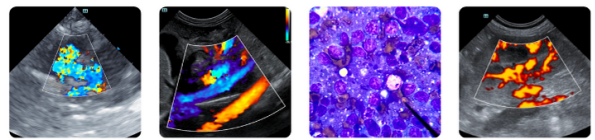
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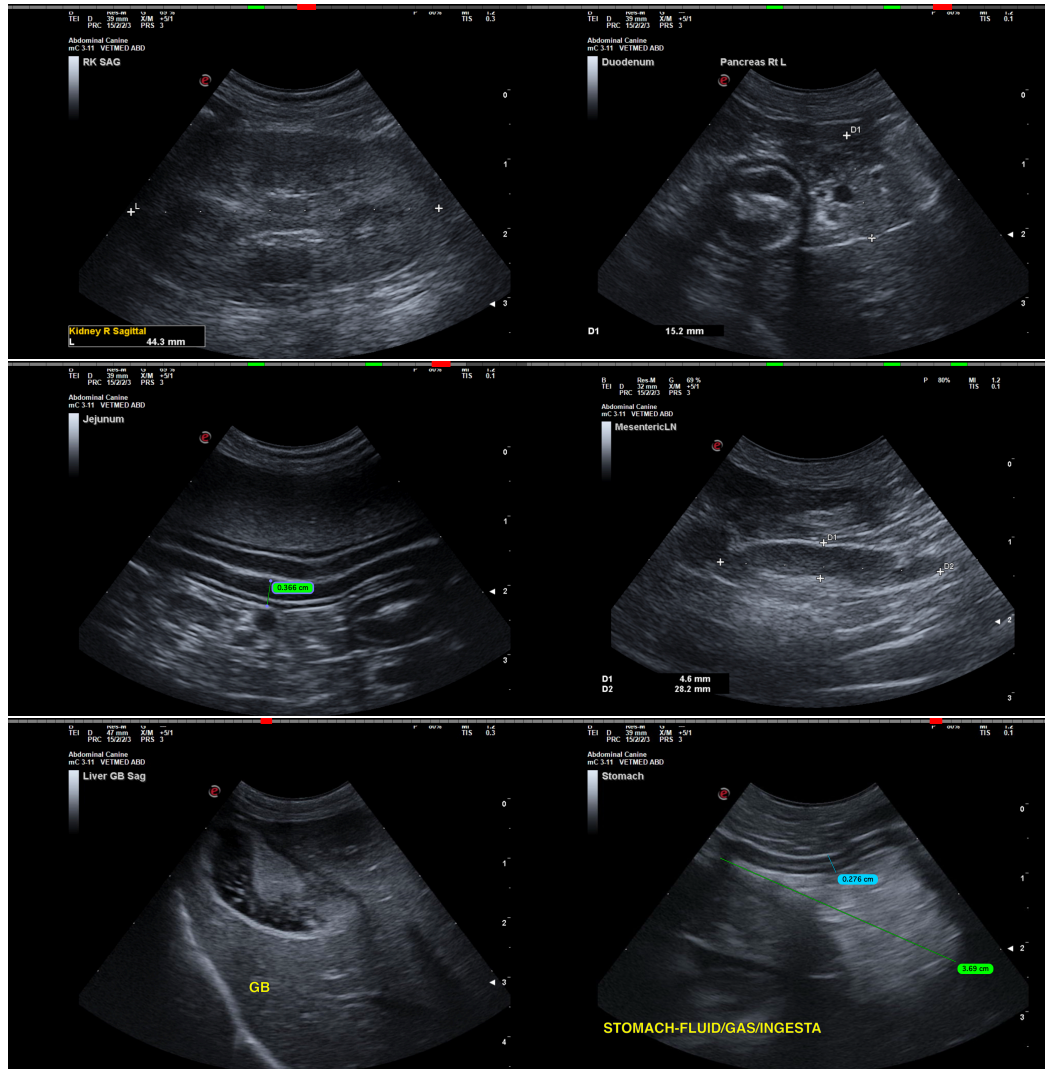
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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