



**PATIENT**

Penny Lane Spears

**SPECIES**

Canine

**BREED**

Beagle

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

23 Pounds

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Shari Reffi, CVT

**HOSPITAL NAME**

Shohola Vet Hospital

**REFERRING VET**

Dr. DeMeo

**INVOICE**

46404

**DATE**

4/5/23

**PRESENTING CLINICAL SIGNS**

Diarrhea x 2 wks, eating on and off, possible mid abdominal mass on rads. Current meds: Cerenia, Enrofloxacin, Cefazolin inj. given 4/4; Metronidazole, Zofran, Sucralfate

Abnormal PE/Chem/CBC/UA Results: rbc 3.57; hct 26.8; hgb 8.6; mchc 32.1; wbc 23.9; neut 21; mono 1.482; gluc 126; sdma 15; ca 5.7; Na 139; TP 2.3; Alb 1.1; Glob 1.2; Alt 131, ast 91, alp 379' ggt 36; chol 54; lipase 450; CK 205; T4 0.4

**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 (4.46 cm). Overall echogenicity is normal with adequate 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 has a normal shape and size (4.88 cm). Overall echogenicity is normal with adequate 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 measuring 0.43 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 0.47 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 large and irregular in shape. The blood flow through the hilus and splenic parenchyma appears normal. There is an iso- to hyperechoic solid mass effect visualized towards the cranial aspect of the spleen measuring 3.4 cm x 3.49 cm.

**Liver**

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. There is a small hypoechoic nodule visualized within the parenchyma measuring 1.52 cm x 1.2 cm.

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 a large amount of shadowing ingesta. 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. The ingesta visualized within the stomach shadows, making full visualization of the cranial abdomen challenging.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with moderate fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Jejunum wall measures 0.50 cm. Duodenum wall measures 0.65 cm. There is mucosal fogging and speckling evident. Visualized peristalsis appears appropriate. While no focal mass lesions are observed, the bowel appears diffusely thickened and edematous. Often, areas have intraluminal fluid with lack of significant progressive motility. Additionally, there is some shadowing material visualized within the bowel, some of which may be small intestine.

The region of the ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. More distally, much of the colon appears severely fluid dilated with echogenic fluid and areas of hard shadowing and soft shadowing material.

**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.

**Free Abdomen**

There is a mild to moderate amount of free abdominal fluid. No lymphadenopathy. The omentum is diffusely hyperechoic.

The right auricle and pericardium were visualized and were unremarkable. No obvious pathology is visualized. If cardiac function evaluation is desired a full echocardiogram is warranted.

**ULTRASONOGRAPHIC FINDINGS**

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There is the general impression of thickened edematous bowel with a large amount of echogenic intraluminal material with hard shadowing in some regions. It is likely that this individual has a protein losing enteropathy. The most common differentials for this include severe IBD, lymphangiectasia, or intestinal neoplasia. No focal bowel masses are observed, and a biopsy of the GI tract is necessary to differentiate. Ideally, this patient would have a splenectomy and GI biopsies at the time of surgery, but with the very low albumin levels, surgery can be an increased risk, as healing is diminished and there is increased risk for thromboembolism, etc.

Additionally, there are some areas of bowel with hard shadowing intraluminal material. This patient was not fasted for the scan today, so some of this could be intraluminal ingesta, but foreign material cannot be ruled out. This seems less likely without a history of vomiting, but continued monitoring is warranted, and possibly rescanning after a 12+ hour fast.

Initially, I would recommend stabilization and generic treatment for gastric upset as well as a fine needle aspirate of the spleen in the case that round cell neoplasia is identified. Recommend changing to an ultra low fat diet or a hydrolyzed protein diet, and consider a GI panel to Teas A&M for a qualitative PLI, TLI, cobalamin and folate. You can start empirical cobalamin therapy while this is pending.



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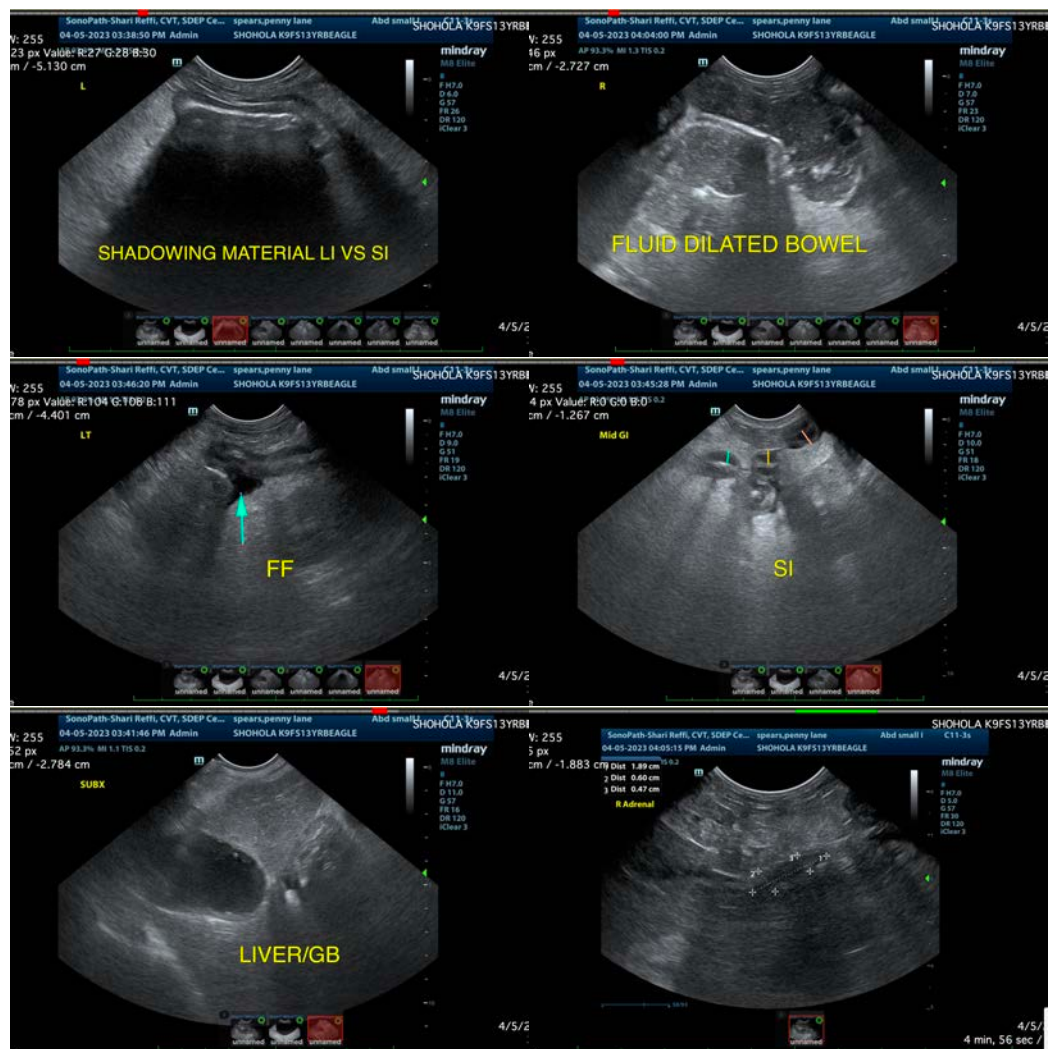
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Additionally, recommend 3-view thoracic radiographs. If there is concern for a possible intraluminal foreign body, administering barium mixed with food could be considered, and serial radiographs to possibly demonstrate an obstructive process. Ideally, I would consider upper GI endoscopy to obtain GI biopsies, then treatment for the diagnosed GI disease, and possibly a splenectomy at a later date. If this is not possible, I would start an anti-inflammatory dose of steroids and consider surgical biopsies if the albumin level improves somewhat. If ingested foreign material is strongly suspected, there may be no choice but to take the risk of surgery.

Additionally, you can consider a liver function test and evaluation of a urine protein to creatinine ratio, looking for additional protein loss from these sources.





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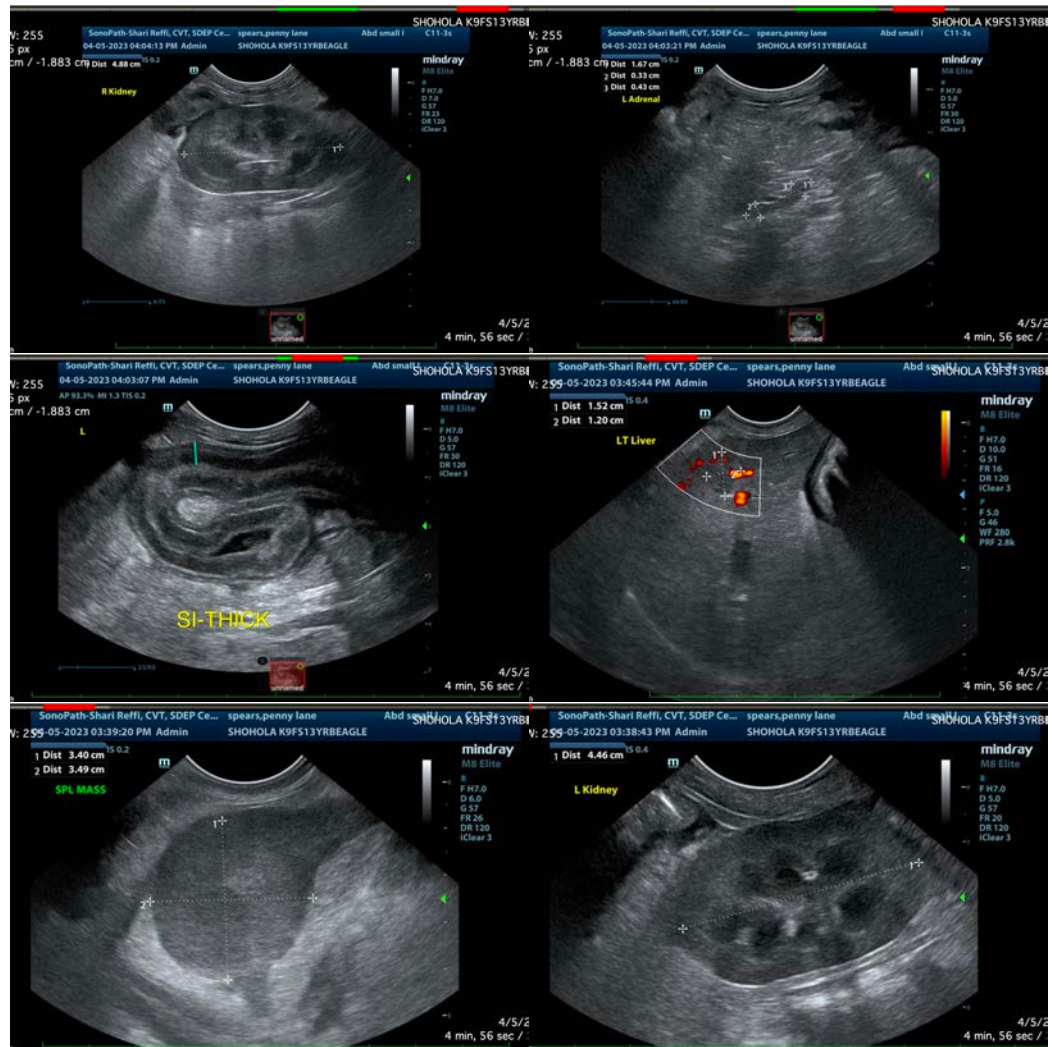
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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