

**PATIENT**

Gucci Olmsted

**SPECIES**

Canine

**BREED**

Rottweiler

**SEX**

Spayed Female

**AGE**

8 Years

**WEIGHT**

97 Pounds

**INTERPRETED BY**Beth Johnson, DVM  
DACVIM**IMAGING PERFORMED BY**

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging MI

**REFERRING VET**

Dr. Lauren Liba

**INVOICE**

45173

**DATE**

2/15/23

**PRESENTING CLINICAL SIGNS**

Routine ultrasound, weight loss, distended abdomen.

Abnormal PE/Chem/CBC/UA Results: Radiographs attached. Concern for mass effect.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****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.

The right kidney is normal in size (7.32 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (7.55 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

**Adrenal Glands**

The right adrenal gland is normal in size (0.53 cm at the cranial pole and 0.47 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.56 cm at the cranial pole and 0.52 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**Spleen**

Spleen is generally normal in size and shape with a smooth capsular contour. Parenchyma is diffusely nodular in appearance characterized by small discrete hypoechoic nodules. Additionally, there are slightly larger focal nodules, including a 0.90 cm in diameter hypoechoic, non-capsule disrupting nodule in the mid body as well as a 1.3 cm x 1.8 cm non-capsule disrupting, more heterogeneous/anechoic nodule. Splenic vasculature appears normal.

**Liver**

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

**Gastrointestinal**

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. Pyloric outflow tract appears patent.

## IMAGING PERFORMED BY

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Diffusely, the visible small intestine demonstrates areas of thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular, thick and hyperechoic. In the proximal duodenum, there is more significant thickening with the duodenal wall measuring between 0.8-1.0 cm thick with corrugation and loss of mural detail. The lumen is empty with no evidence of obstruction or foreign material.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

### **Pancreas**

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### **Free Abdomen**

There is a scant amount of anechoic free fluid noted.

There is no apparent lymphadenopathy noted in these images.

### **ULTRASONOGRAPHIC FINDINGS**

- Diffusely thick muscularis has been reported with infiltrative bowel disease, including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. Given the more focal change in the proximal duodenum as well as the concern for early loss of layering, infiltrative neoplasia is considered slightly more likely. Having said that, the corrugation present could be secondary to a benign process and secondary gastroenteritis, and be causing the impression of loss of layering, so this appearance should not be overinterpreted without tissue sampling.
- **Splenic micronodular hyperplasia pattern** – This nodular change is often associated with benign aging nodular hyperplasia. Infiltrative neoplasia, however, including both early hemangiosarcoma as well as round cell neoplasia cannot be ruled out.
- **Hypo to anechoic splenic nodules** – likely represent benign lesions such as cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.
- Scant amount of anechoic free fluid

### **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given the free fluid, further evaluation for possible hyperproteinemia is recommended, beginning with a general metabolic health screen if not recently evaluated, including CBC/Che panel, electrolytes, a urinalysis and, if indicated based on urinalysis results, urine culture. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

Additionally, 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.

A fine needle aspirate of the spleen could be considered if patient's coagulation status is appropriate as the least invasive way for looking for possible infiltrative round cell neoplasia. However, if a diagnosis is not made, ultimately biopsies of the GI tract, being sure to include the focally more affected duodenum, may be warranted to definitively diagnose and therefore manage the infiltrative disease. Duodenal biopsies may be able to be achieved endoscopically. However, given the suspected loss of layering, an

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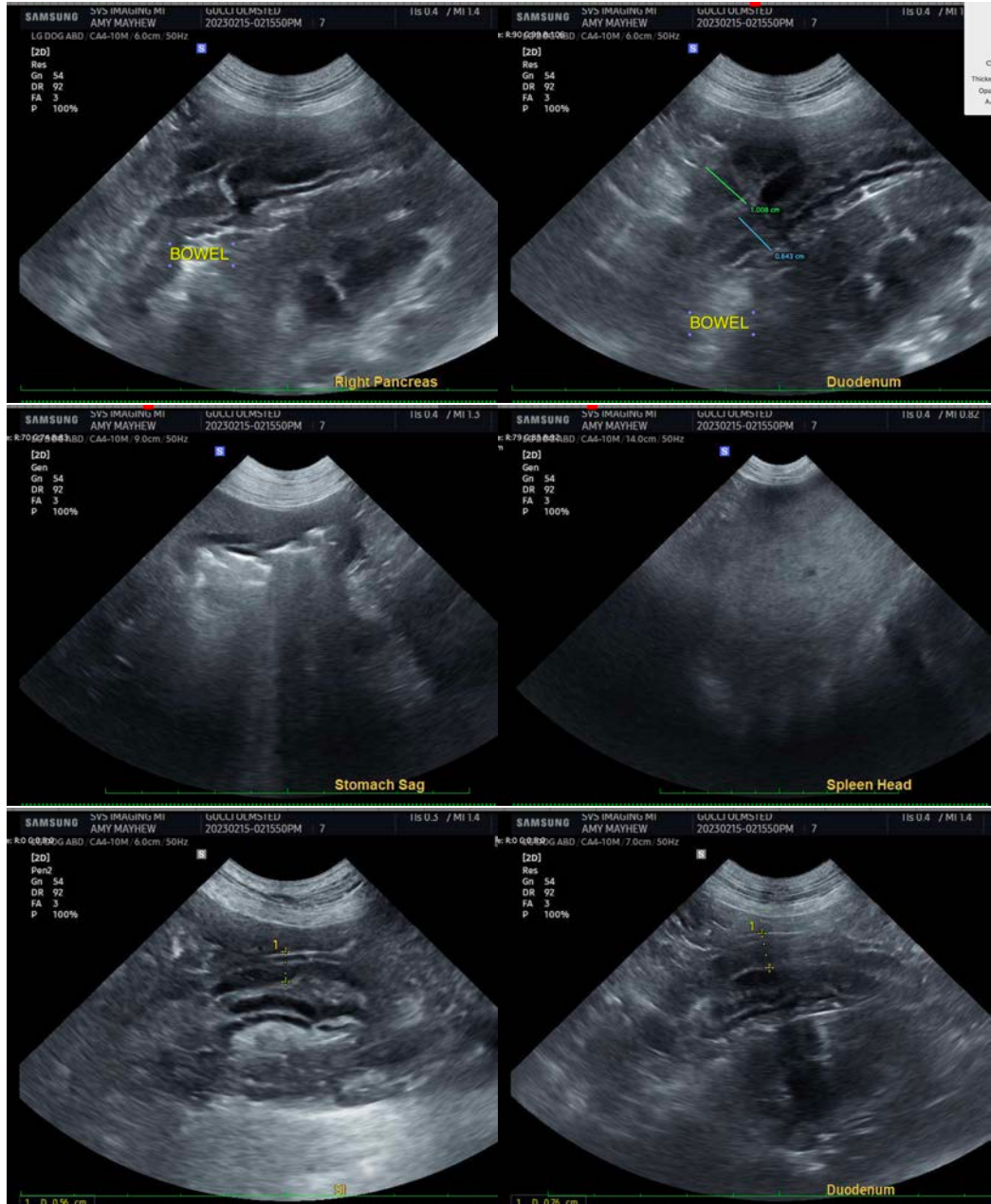
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exploratory laparotomy may be more appropriate for complete excision of the affected bowel with resection and anastomosis.

Prior to biopsies, three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.



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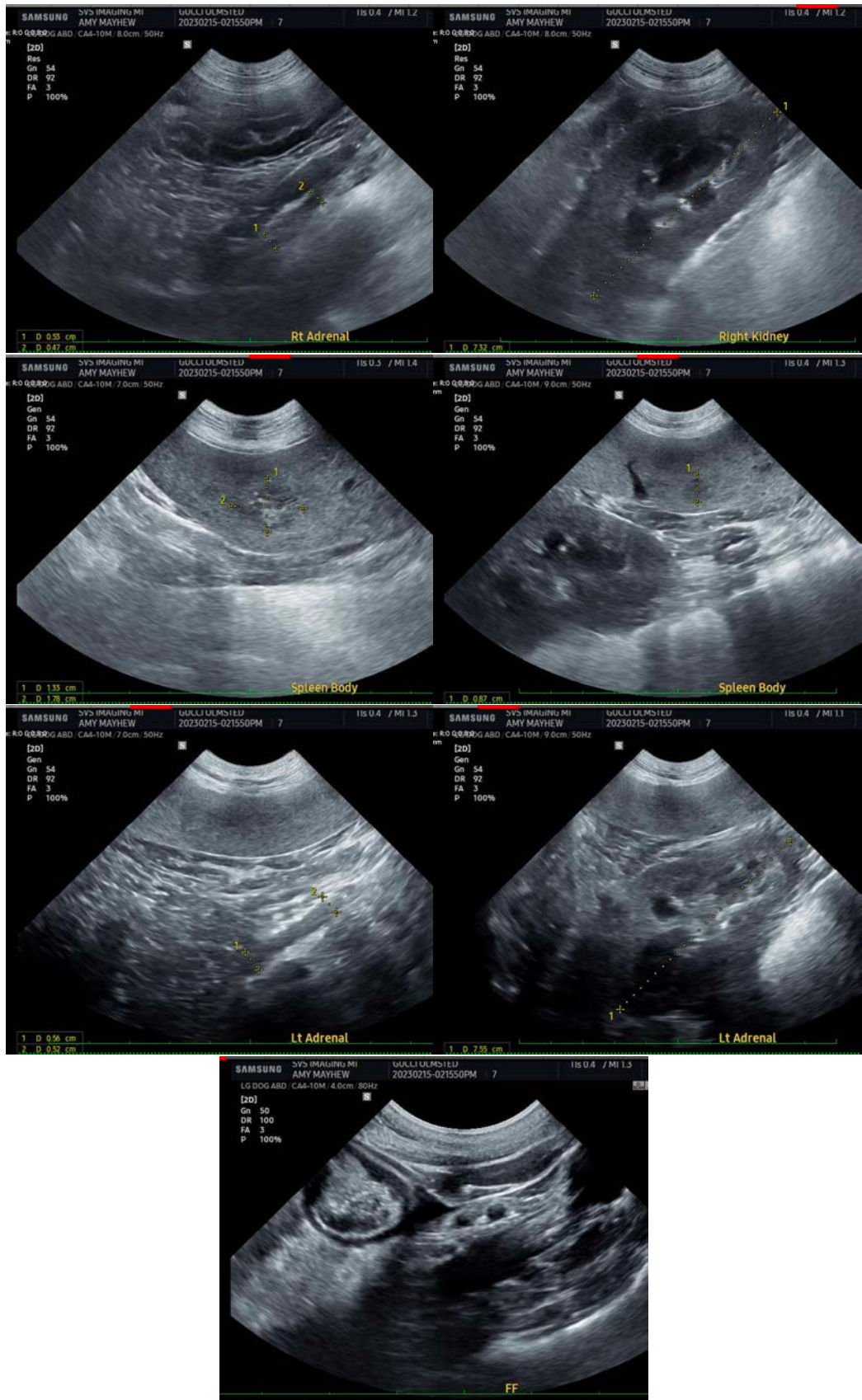
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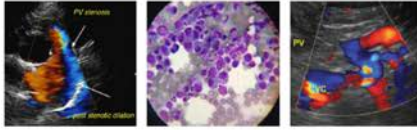
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

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Beth.Johnson@sonopath.com

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