



**PATIENT**

Millie Giffin

**SPECIES**

Canine

**BREED**

Brittany Spaniel

**SEX**

Spayed Female

**AGE**

7 Years

**WEIGHT**

25.2 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Amy Mayhew, LVT

**HOSPITAL NAME**

SVS Imaging MI

**REFERRING VET**

Dr. Fairbairn

**INVOICE**

21318

**DATE**

2/27/23

**PRESENTING CLINICAL SIGNS**

History: Routine bloodwork - no clinical symptoms

Abnormal PE/Chem/CBC/UA Results: Persistent neutropenia. Please see attached.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Urinary bladder is adequately 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.

Left kidney is normal in size (5.04 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. A hyperechoic band parallel to the corticomedullary border is present.

Right kidney is normal in size (5.52 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. A hyperechoic band parallel to the corticomedullary border is present.

**Adrenal Glands**

Left adrenal gland is normal in size (0.41 cm at cranial pole and 0.56 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (0.38 cm at cranial pole and 0.41 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**Spleen**

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.

**Liver**

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.

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 empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.



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The visible small intestines are normal in wall thickness and layering. Subtle hyperechoic mucosal fogging or speckling is noted. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction or foreign material.

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The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

**Pancreas**

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The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

**Free Abdomen**

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There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

**ULTRASONOGRAPHIC FINDINGS**

**AGE**

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- Bilateral medullary rim sign - This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.

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- Subtle mucosal speckling – Mucosal speckling is often present with inflammatory bowel disease (IBD). It is not specific for type or severity of disease. Mild speckling change can occur as a normal patient variant in the post-prandial state.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There is no ultrasonographically visible explanation for this patient's progressive neutropenia. Recommendations include comprehensive infectious disease testing, and if a diagnosis is not obtained, then recommendations include bone marrow cytology/core biopsy.

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Additionally, while likely unrelated to the neutropenia, given the subtle mucosal speckling, if this patient has any history of gastrointestinal signs, including unexplained weight loss, intermittent diarrhea, decreased appetite, etc., further evaluation of the gastrointestinal health, beginning with a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory should be considered for further evaluation of GI and pancreatic function.

**REFERRING VET**

Dr. Fairbairn

Additionally, if not recently evaluated, given the medullary rim sign, urinalysis and, if indicated based on urinalysis results, urine culture is recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ratio is recommended.

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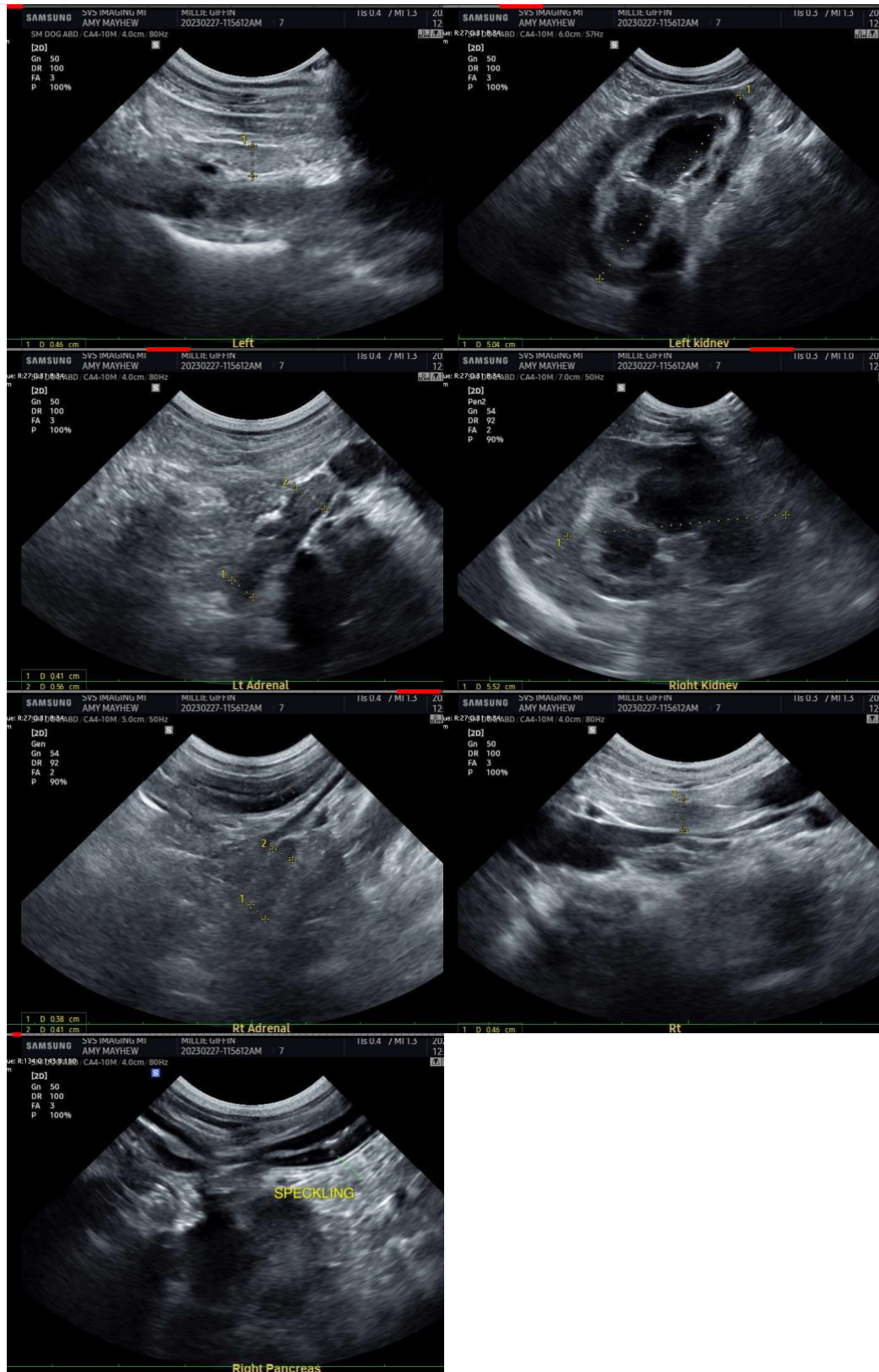
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The information and recommendations provided are based on the images presented by the



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**referring veterinarian. 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, DVM DACVIM**

Beth.Johnson@SonoPath.com

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