



**PATIENT**

Bonnie Allison

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

10 Years

**WEIGHT**

7.6 Pounds

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING PERFORMED BY**

Jessica Bailes

**HOSPITAL NAME**

All Creatures Great &  
Small Corvallis

**REFERRING VET**

Dr. Chantal Litalian

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**DATE**

3/17/22

**PRESENTING CLINICAL SIGNS**

acute onset weight loss, lethargy, vomiting, diarrhea and poor appetite. FIV positive per owner  
Abnormal PE/Chem/CBC/UA Results: Thin BCS w/ moderate MCS atrophy dorsum, otherwise NSF on PE BW: SC: PSL 35, Globulin 5.4, creat 1.6. All other wnl. CBC: Mild neutrophilia (10731). All other wnl. TT4: WNL @ 2.8 UA: USG 1.043. Hematuria, otherwise IS. UPC 0.4.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is adequately filled. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra, and there is no evidence of cystoliths, polyps or a mass. A small amount of free-floating sediment is present, most likely composed of mucus, crystalline material, and exfoliated cells, as well as some red blood cells based on the history of hemorrhage. There are no obvious signs of a urinary tract infection or active inflammation.

The left kidney is within normal limits in size for the patient's weight (3.9 cm). The capsule is smooth. The cortex is hyperechoic, and there is a mild loss of definition of the corticomedullary junction. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic. Blood flow to the parenchyma appears very mildly decreased.

The right kidney is within normal limits in size for the patient's weight (3.2 cm). The capsule is smooth. The cortex is hyperechoic (it is hyperechoic to the liver). Mild loss of definition of the corticomedullary junction is observed, in addition to multiple mineralizations, including a central one within the pelvis. The latter creates mild acoustic shadowing (i.e., early calcification present). Pyelectasia is absent. The surrounding mesentery is not hyperechoic. Blood flow to the right kidney is better than the left. The right kidney is hyperechoic to the liver.

**Adrenal Glands**

The left adrenal gland measures 0.40 cm at the cranial pole, 0.30 cm at the caudal pole, and 1.6 cm in length. No abnormalities are noted in the gland's shape, overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The right adrenal gland measures 0.43 cm at the cranial pole, 0.34 cm at the caudal pole, and 1.93 cm in length. No abnormalities are noted in the gland's shape, overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

**Spleen**

Splenomegaly is present, however, architecture, echotexture, and echogenicity are within normal limits. It is hyperechoic to both the liver and renal cortex. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

**Liver**

There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The liver's echotexture is homogeneous, but is very mildly hyperechoic. No abnormalities are observed with the hepatic vessels. Overt signs of an inflammatory, infiltrative or regenerative process are not evident.

The gall bladder wall appears to be within normal limits in thickness and echogenicity. There is a trivial amount of sludge within the gallbladder. The cystic and common bile ducts are not dilated or tortuous.



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**Gastrointestinal**

The stomach wall measures within normal limits, yet the wall layers are more prominent. Despite this, definition of the wall layers is preserved. Peristalsis is mildly decreased. The pylorus is normal.

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The duodenum measures 2.5 mm, and its submucosa is thickened. Other regions of the intestine are diffusely thickened (0.29, 0.27, and 0.33 cm) with fogging of the mucosa; suggestive of inflammation. However, there is no loss of definition of the wall layering. The ileo-cecal-colic (ICC) junction does not show any abnormalities. The mesentery surrounding the intestines in the region of the ICC junction is mildly hyperechoic, i.e., more than usual. The colonic wall is not thickened and mural detail is considered normal. There are no obvious signs of a mass, foreign body, or an obstruction.

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**Pancreas**

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Within normal limits regarding echogenicity and echotexture. There is no evidence of hyperechogenicity of the mesenteric fat; active pancreatitis is considered unlikely.

**Other**

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Lymph nodes: No abnormalities are observed.

Abdominal effusion is not visualized.

**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

7.6 Pounds

- Renal changes may be due to glomerulonephritis or interstitial nephritis, which can occur with FIV, as well as degenerative disease. The mineralizations and early calcifications in the right kidney may be causing friction with the parenchyma and intermittent hemorrhage, which could explain the hematuria observed on the urinalysis. Idiopathic cystitis seems unlikely based on absence of clinical signs at home, as well as lack of signs of inflammation in Bonnie's urinary bladder.

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- The liver is diffusely, but mildly hyperechoic, which may be due to subclinical hepatic lipidosis due to hyporexia.

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Jessica Bailes

- Splenomegaly with preservation of the normal architecture. Differential diagnoses include antigenic stimulation and secondary inflammation such as splenitis, as well as an immune mediated induced inflammation, which may or may not be associated with FIV. Neoplasia such as lymphoma, mast cell tumor, or other round cell tumor cannot be excluded; a fine needle aspirate is required to achieve a definitive diagnosis.

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- The stomach changes may be due to gastritis secondary to vomiting. There are no obvious signs of neoplasia within the stomach. Underlying inflammatory bowel disease is also possible.

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- The diffuse thickening and mucosal fogging of the intestinal tract may occur due to inflammation secondary to inflammatory bowel disease. However, infiltrative disease, such as lymphoma or other round cell tumour cannot be excluded.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

A cobalamin, folate and TLI are recommended to exclude a vitamin B12 deficiency as well as EPI as causes of malabsorption and weight loss, especially rapid weight loss.

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Endoscopy and biopsies as well as a fine needle aspirate of the spleen are recommended. Another option, although much more invasive, would be to perform an exploratory laparotomy.



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If further diagnostics are not pursued, empirical treatment for inflammatory bowel disease with corticosteroids is recommended, as well as a hypoallergenic diet, whether hydrolyzed or novel protein, but something that is easily digestible and obviously enticing for Bonnie to eat.

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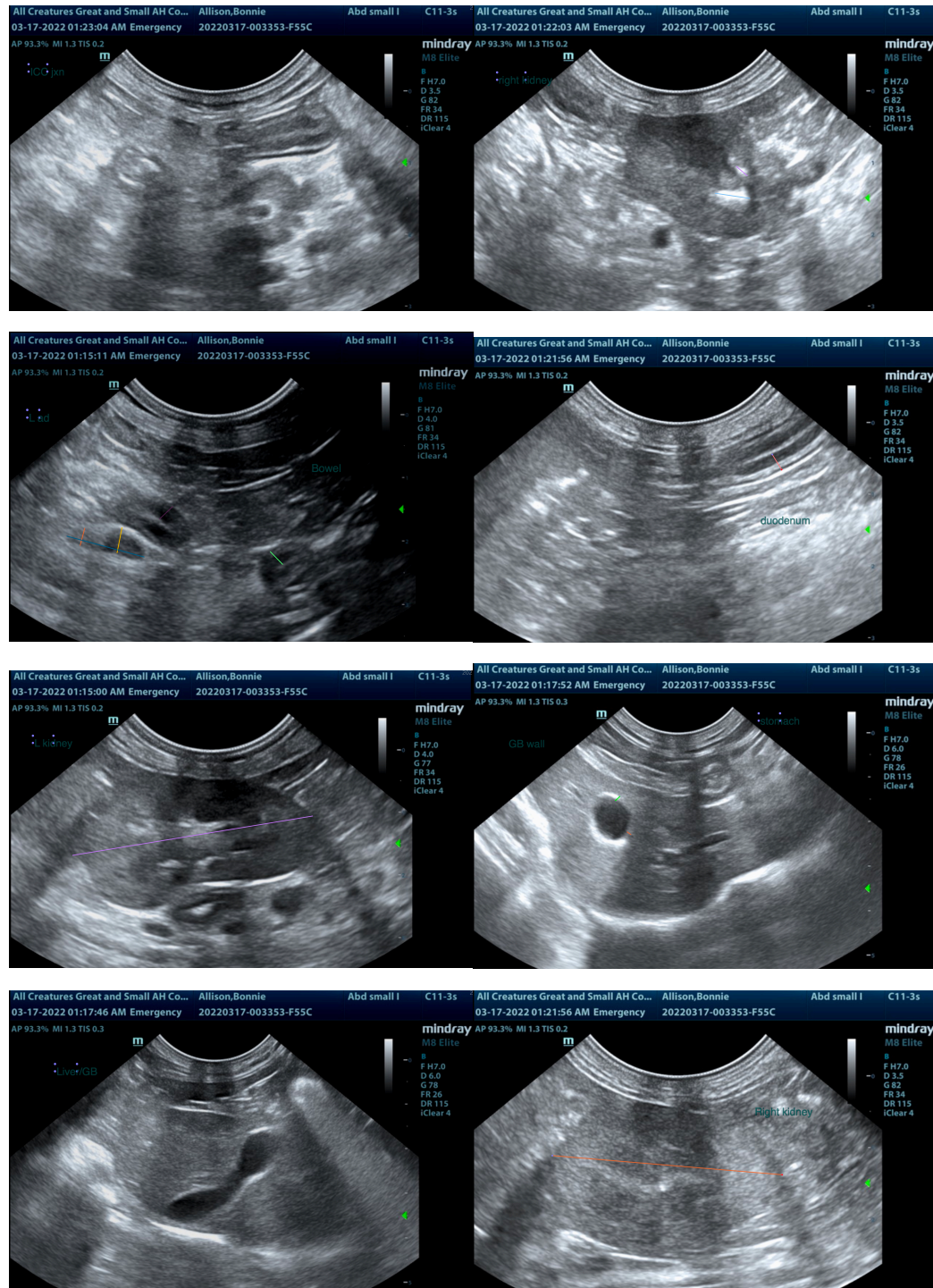
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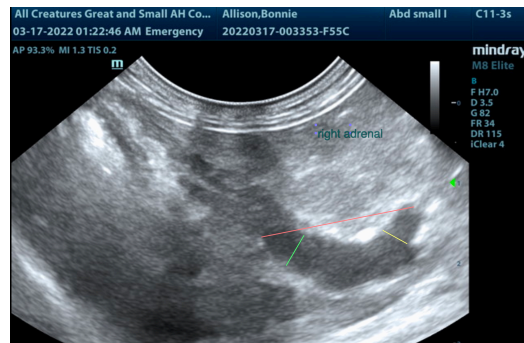
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

[Lisa.Carioto@sonopath.com](mailto:Lisa.Carioto@sonopath.com)