



**PATIENT**

Kitty Murray

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

6.5 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Jessica Miller

**HOSPITAL NAME**

Newton Vet Hospital

**REFERRING VET**

Dr. Wyman-Greenwald

**INVOICE**

40867

**DATE**

8/30/22

**PRESENTING CLINICAL SIGNS**

Ravenous appetite, losing weight. No current meds.  
Abnormal PE/Chem/CBC/UA Results: ALKP 112, T bili 1.7, WBc 7.8, RBC 5.4, Hgb 8.6, hct 27, neut 1120, T4 0.8

**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 (3.26 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 or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted.

The left kidney is normal in size (3.58 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 or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted.

**Adrenal Glands**

Adrenal glands (more prominently noticed in the left) are bilaterally uniformly plump egg-shaped adrenals (left measures 0.42 cm, right measures 0.32 cm), hypoechoic in echogenicity. This is most likely a benign age-related change. This change can be caused by chronic stress/disease, so investigation for/management of other disease (chronic kidney disease, hyperthyroidism, etc.) is recommended.

**Spleen**

Spleen is subjectively large in size with subtly scalloped or undulating capsular contour. Parenchyma is normal in echogenicity with a mildly coarse/heterogenous echotexture. No focal nodules or masses are observed. Splenic vasculature appears normal.

**Liver**

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. 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 stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestine demonstrates areas of mildly thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular,



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thick and hyperechoic, without evident loss of layering appreciated. 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.

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**Pancreas**

Pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and has a mildly irregular undulating contour. Parenchyma is coarse with mixed echogenic remodeling noted. Pancreatic duct dilation is noted.

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**Free Abdomen**

There is a very scant amount of anechoic free fluid noted in these images.

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The lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

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**ULTRASONOGRAPHIC FINDINGS**

- **Hyperechoic hepatomegaly** – This appearance is most consistent with benign hepatic lipidosis. Infiltrative disease such as amyloidosis or round cell neoplasia, such as mast cell tumor or less likely, lymphoma, is also possible.

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- **Scalloped spleen** – can be associated with benign or malignant infiltrative disease. Common causes include a reactive spleen secondary to immune stimulus or early infiltrative round cell neoplasia such as lymphoma or mast cell tumor.

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- **Inflammatory bowel disease (IBD) pattern** – Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. No aggressive lymphadenopathy, loss of layering, etc. is noted to make lymphoma more probable, but lymphoma cannot be definitively ruled out without tissue sampling.

**IMAGING PERFORMED BY**

Jessica Miller

- Chronic active pancreatitis suspected
- Non-obstructive nephrolithiasis bilaterally

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- **Reactive mesenteric lymph nodes** – infiltrative neoplastic disease cannot be ruled out but is considered less likely.

**REFERRING VET**

Dr. Wyman-Greenwald

- Scant amount of anechoic free fluid present

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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.

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Given this patient's liver enzyme changes, a fine needle aspirate of the liver and spleen are also recommended if the patient's coagulation status is appropriate. If not recently evaluated, to rule out proteinuria as an additional cause for weight loss, urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

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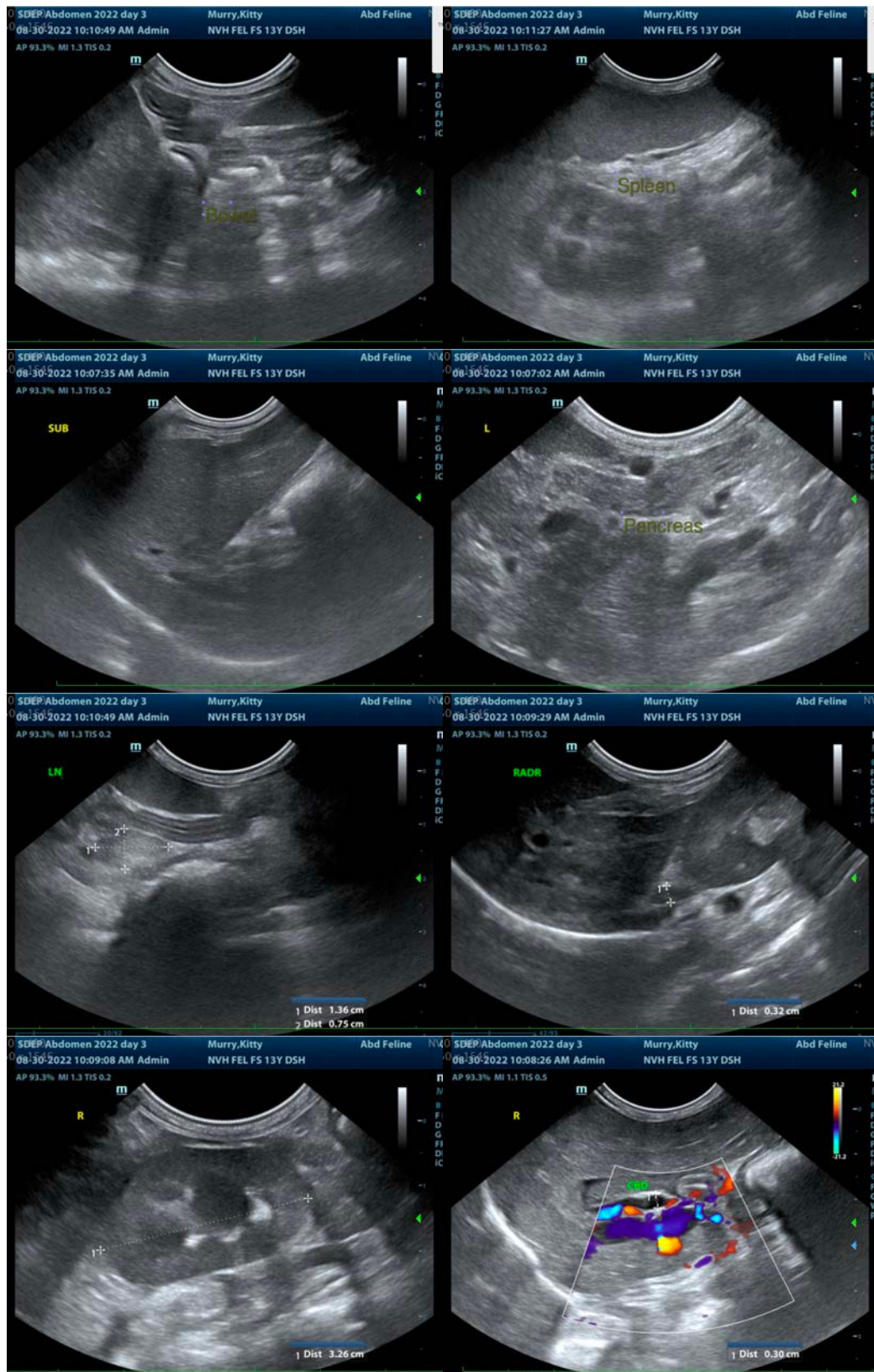
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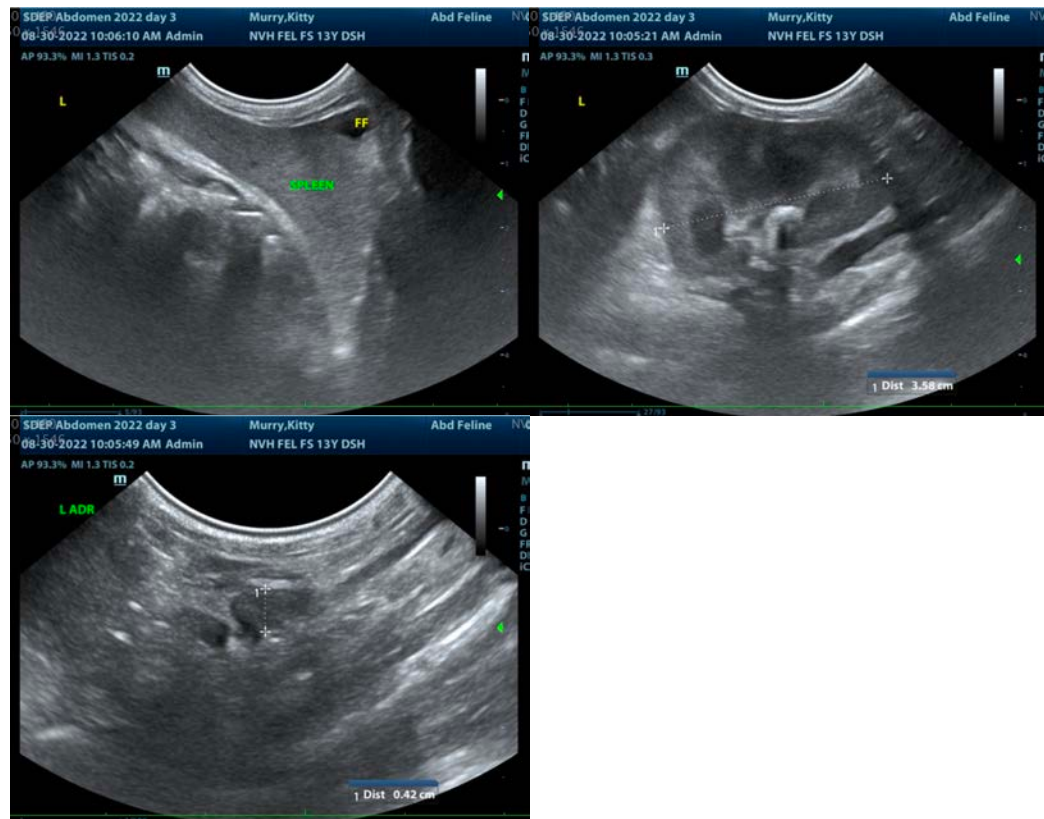
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Beth Johnson, DVM, DACVIM**  
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