

**PATIENT**

Ginny Zurmuehlen

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Spayed Female

AGE

15 years

WEIGHT

5.84 lbs

INTERPRETED BYLisa Carioto, DVM,
DVSc, Diplomate
ACVIM**IMAGING
PERFORMED BY**

Amy Mayhew LVT

HOSPITAL NAME

SVS Imaging Michigan

REFERRING VETWixom Family Pet
Practice**INVOICE**

30303

DATE

5/11/20

PRESENTING CLINICAL SIGNS

History of intermittent diarrhea. Weight loss. PAH, moderate PI, and moderate/severe TR with current treatment spironolactone and sildenafil. Chronic kidney disease. Recently placed on renal diet and eating a little better than before.

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

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

The urinary bladder is well distended with anechoic contents. The wall is smooth and regular. No abnormalities are noted with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass.

Kidneys

The **left** kidney measures 3.68 cm (3.80-4.40 cm). The capsule is smooth. The cortex is hyperechoic, i.e., the cortex is isoechoic to the spleen. A mild to moderate loss of the normal definition of the cortico-medullary junction is present. An accumulation of intrapelvic fat is noted, in addition to the presence of mineralizations of the diverticulae and pelvis. There is no evidence of nephroliths. Mild pyelectasia of 0.28 cm is present. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 4.08 cm (3.80-4.40 cm). The capsule is mildly irregular as a result of a structure with anechoic contents located at its caudal pole. The latter is consistent with a cyst. The cyst measures 2.58 cm in diameter x 2.97 cm in length. A mild to moderate loss of the normal definition of the cortico-medullary junction is present. There is no evidence of nephroliths. The surrounding mesentery is not hyperechoic.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.34 cm in diameter. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.34 cm in diameter. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

The spleen is within normal limits in size 9.52 mm (normal = 10 mm), echotexture, and echogenicity. Pinpoint, hyperechoic foci are noted throughout the parenchyma, which are some suggestive of mineralization. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

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Liver

There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The liver is mildly coarse and has a diffuse, granular echotexture. It is also mildly hyperechoic. Focal lesions are not visualized. No abnormalities are observed with the hepatic vessels visualized. Perivascular cuffing is present, which may be due to fat, inflammation, mineralization and/or fibrosis. There is no evidence of hepatic congestion.

The gallbladder (GB) is moderately distended with a small amount of free floating and gravity-dependent echogenic material. The GB wall is within normal limits in thickness and echogenicity. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction. The parenchyma surrounding the ventral aspect of the GB is hyperechoic.

Gastrointestinal

The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

The duodenum is very mildly corrugated. The submucosa is more prominent than usual.

The small intestinal wall thickness is within normal limits and the definition of the wall layers is preserved, however the mucosa and the submucosa appear mildly prominent. Loops of bowel in the region of the ileo-cecal-colic junction show thickened mucosa and muscularis layers, as well as a prominent submucosa. The mesentery surrounding the small intestines is hyperechoic. No abnormalities are observed with the ileo-cecal-colic junction. Abnormally dilated loops of bowel are not observed.

The colonic wall is not thickened and mural detail is considered normal.

Pancreas

The **left** and **right** limbs and **body** of the **pancreas** are diffusely hypoechoic. The contours are smooth to mildly irregular. The pancreatico-duodenal duct is not dilated. Pinpoint and small punctate, hyperechoic foci are noted throughout the parenchyma, which are most likely due to fibrosis secondary to age-related changes, possible previous episodes of pancreatitis, as well as amyloid deposition. The mesentery surrounding the pancreas is hyperechoic, suggestive of saponification. These findings are highly suggestive of active pancreatitis and age-related changes. Overt signs of neoplasia are not noted.

Other**Lymph nodes (LNs)**

Two gastric lymph nodes (LNs) are mildly enlarged, measuring 4.0 mm in diameter x 2.9 mm in length. The mesentery surrounding the LN is mildly hyperechoic. The second measures 3.5 mm in diameter x 6.4 mm in length.

Two lymph nodes in the region of the ileo-cecal-colic junction are hypoechoic and plump. The first measures 6.21 mm in diameter x 6.9 mm in length. The second measures 6.6 mm in diameter x 5.1 mm in length. The mesentery surrounding the LNs is markedly hyperechoic.

Abdominal effusion is not visualized.

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ULTRASONOGRAPHIC FINDINGS

- The pancreatic abnormalities are highly suggestive of active pancreatitis and age-related changes. Overt signs of neoplasia are not noted.
- Differential diagnoses for the lymphadenomegaly include reactive hyperplasia or inflammation, however, neoplasia in its early stages cannot be excluded.
- The intestinal abnormalities are suggestive of inflammation, such as inflammatory bowel disease, however, infiltrative disease, such as lymphoma or other round cell tumour, cannot be excluded.
- A reactive hepatopathy may be the cause of the granular, coarse echotexture. The diffuse hyperechogenicity of the liver may be due to cholangitis/cholangiohepatitis, and cholestasis. Hepatic lipidosis secondary to hyporexia and pancreatitis may be contributing to the hyperechogenicity.
- Cholecystitis cannot be excluded despite the classical sonographic findings.
- Based on the above findings, severe "triaditis" cannot be excluded.
- Mild to moderate renal changes are present, which are suggestive of age related degeneration. The cyst in the right kidney is quite large, and may be affecting renal function based on blood work results. Mild pyelectasia of the left kidney is noted, which may be due to polydipsia/polyuria secondary to renal disease. Pyelonephritis is considered less likely, but cannot be excluded.
- Blood work showed signs of hemoconcentration, as well as decreased renal function based on the decreased urine specific gravity (1.013) and proteinuria.
- Ginny's hyporexia may be due to her medication.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The evaluation of Ginny's arterial blood pressure, ideally in the presence of the client to minimize the effects of stress. A fundic exam is also suggested.

A urinalysis and urine culture and sensitivity are recommended to exclude a urinary tract infection and pyelonephritis.

If negative, a urine protein: creatinine ratio is suggested.

Monitoring of Ginny's water consumption and urine output is suggested.

Consultation with the doctor who prescribed the spironolactone and sildenafil should be contacted to discuss decreasing the dose due to her renal changes.

The medications should be administered with a meal to decrease nausea. To decrease the risk of nausea associated with the bitter taste of the medications, they may be placed in an empty gelatin capsule, coated with a small amount of margarine to ease administration.

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Treatment for visceral pain is recommended, including analgesics, such as buprenorphine, as well as supportive care, such as IV or subcutaneous. Depending on Ginny's hydration status, as well as maropitant, and possibly mirtazapine.

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A 10-14 day trial with famotidine or omeprazole may be considered.

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A TLI, vitamin B12, and folate may be performed as cats suffering from weight loss, IBD or pancreatitis may suffer from cobalamin deficiencies and exocrine pancreatic insufficiency (EPI). If the test is cost prohibitive, supplementation with vitamin B12 is suggested. However, EPI will not be addressed with supplementation of vitamin B 12 alone.

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If an improvement is not observed with the above treatment, the following may be considered, i.e., cholestasis, cholangitis/cholangiohepatitis and cholecystitis cannot be excluded and secondary ascending bacterial infections may occur. Although indiscriminate use of antibiotics is not normally recommended, one could begin treatment with a broad-spectrum antibiotic and assess Hestie's clinical response.

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If there is no response to the above, endoscopy and biopsies of the upper and lower GI tract are suggested, however, the risk benefit ratio of general anesthesia must be considered.

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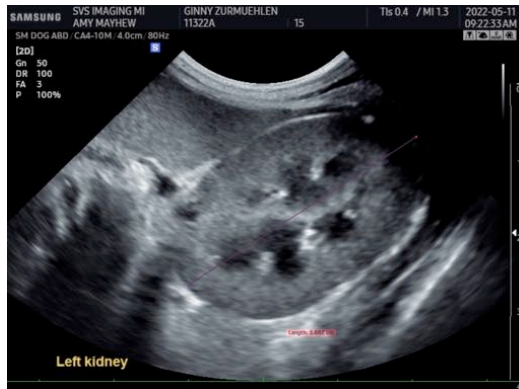
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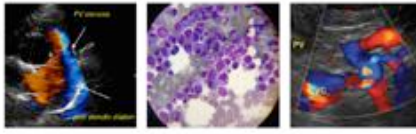
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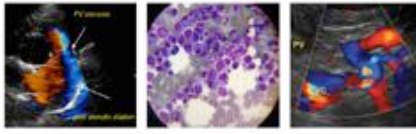
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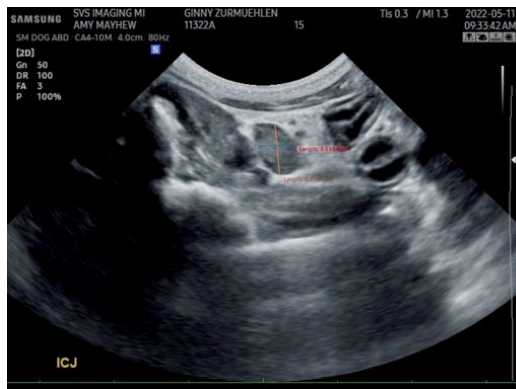
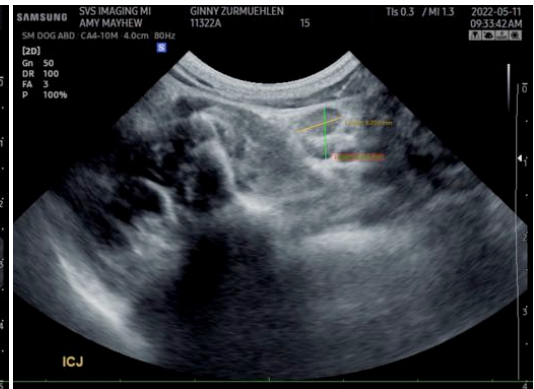
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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