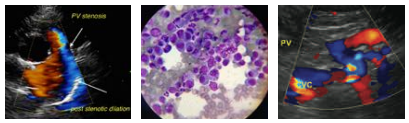
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

DATE
6/24/22

PATIENT
Sadie Morrison

SPECIES
Feline

BREED
Domestic Shorthair

SEX
Spayed Female

AGE
5/15/11

WEIGHT
7.4 lbs

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

HOSPITAL NAME
Petwellness Center

REFERRING VET
Dr. Twardus

INVOICE
61241

PRESENTING CLINICAL SIGNS

Decreased appetite, weight loss.
Current Medications: None listed.
Lab Results: WNL.
Radiographs: Delayed emptying of stomach, thickened intestines.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Stephanie Pearce RDCS, RVT.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is adequately distended. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. A very small amount of free floating and aggregated sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

Kidneys
The **left** kidney measures 3.23 cm (3.80-4.40 cm). The capsule is smooth. The cortex is mildly hyperechoic and a mild to moderate loss of the normal definition of the cortico-medullary (CM) junction is present. Pinpoint mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. Blood flow is within normal limits. The surrounding mesentery is not hyperechoic.
The **right** kidney measures 3.49 cm (3.80-4.40 cm). Findings are similar to the left kidney, with a less noticeable loss of the CM definition.

Aortic bifurcation/trifurcation
No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.44 cm. 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 0.37 cm. 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 6.5 mm (normal = 10 mm), echotexture, and echogenicity. 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 and it is within normal limits in echogenicity. Focal lesions are not observed. There are no signs of a portosystemic shunt and no abnormalities are observed with the hepatic vessels.

The gallbladder (GB) is within normal limits in thickness and echogenicity. A small amount of echogenic material is present within the GB. 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.

Gastrointestinal

Ingesta and gas as well as a small amount of fluid are present within the lumen of the stomach surrounding mesentery is mildly hyperechoic. The gastric wall is within normal limits in thickness and the wall layers are well defined, with the submucosa appearing more prominent than usual. No obvious abnormalities are observed with its peristalsis.

The muscularis is significantly thickened throughout the small intestinal tract (measuring up to 1.45 mm). Some segments of jejunum also show a prominent submucosa. The ileocecal colic junction is thicker than normal 0.29 cm. The mesentery surrounding the GI tract is markedly hyperechoic.

The colonic wall is not thickened and mural detail is considered normal. Very firm stools are present within the colon.

Pancreas

The **left limb** is prominent and mildly hypoechoic compared to the surrounding omentum. However, its contours are smooth and regular. It has a very mild coarse echotexture, which may be due to age-related changes, such as nodular hyperplasia and fibrosis. Overt signs of neoplasia are not noted.

Other

Lymph nodes

Multiple small mesenteric root lymph nodes are prominent and hypoechoic. The mesentery surrounding the lymph nodes is mildly hyperechoic.

Mesentery

The mesentery surrounding the gastrointestinal tract is hyperechoic.

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

- **Gastrointestinal tract**: The two primary differential diagnoses are *very severe inflammatory bowel disease (IBD) and lymphoma. Sadie is showing criteria suggestive of both diseases, i.e.* preservation of definition of wall layers (IBD), rather than loss of architecture (neoplasia), however, the severity of thickening of the muscularis is more than what is normally expected for IBD. It is possible that Sadie has always suffered from low grade IBD, which has now or is in the process of transforming (progressing to) low grade lymphoma, as both diseases may occur concurrently as per ad recent study. A definitive diagnosis cannot be made without performing intestinal biopsies, and possibly immunohistochemistry and clonality (PARR) studies.

- Signs of constipation are noted in the colon.

- **Lymph nodes**: Very mildly prominent lymph nodes in the region of the mesenteric root suggest reactive hyperplasia, however, early infiltration of neoplastic cells cannot be excluded.

- **Mesentery**: The diffusely hyperechoic mesentery is suggestive of steatitis (inflammation).

- **Gallbladder**: Small amount of gallbladder **sludge**, which is most likely clinically insignificant. However, gastroesophageal reflux disease (GERD), can occur in some patients. *Secondary bacterial infections* may also occur in some patients. Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid or proton pump inhibitor may be required.

- **Pancreas**: It is difficult to interpret the clinical significance of the mild hypoechogenicity of the pancreas, i.e. a smoldering, mild pancreatitis may be present, in addition to age-related changes. If pancreatitis is present, it may be secondary to the severe inflammation in the surrounding vicinity and GI tract. Signs of neoplasia are not evident.

- **Kidneys**: change is suggestive of age-related degeneration. Pyelonephritis cannot be excluded despite the absence of classical sonographic signs.

- **Urinary bladder**: The *debris* is likely composed of mucus, crystalline material and exfoliated cells. A urinary tract infection is considered unlikely based on the absence of inflammatory changes to the mucosa of the bladder wall.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Ideally, endoscopy and biopsies of the stomach, and both the small and large intestines, even if no history of diarrhea.

Analgesia (buprenorphine (0.005-0.01 mg/kg, sublingually, every 8-12 hours) with or without gabapentin. Continue for 3-4 weeks, or longer, as needed. Administer even if does not appear painful.

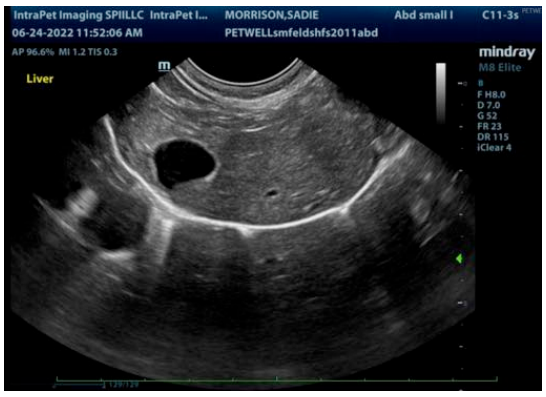
+/- gabapentin

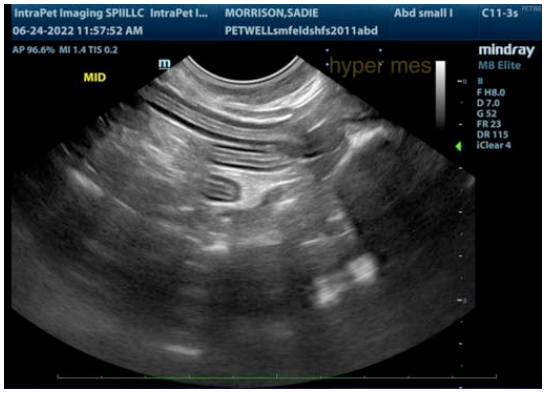
Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid or proton pump inhibitor may be required.

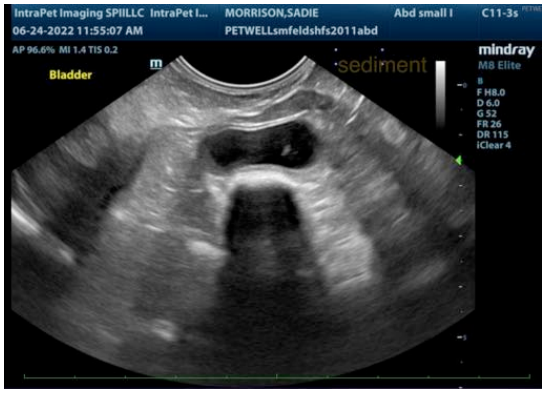
**Addition of soluble fibre (psyllium) for constipation

Although not ideal, empirical therapy prednisolone (1 mg/kg/day) may be considered if further diagnostics are not pursued. If a response is noted, consultation (physical, telephone or telemedicine) with an internist is strongly recommended.

Urinalysis and culture and sensitivity to exclude pyelonephritis




IntraPet Imaging SPIILLC IntraPet I... MORRISON,SADIE Abd small I C11-3s
06-24-2022 11:57:52 AM PETWELLsmfeldshfs2011abd
AP 96.6% MI 1.4 TIS 0.2
mindray
M8 Elite
MID
hyper mes
B
F H8.0
D 7.0
G 52
FR 23
DR 115
iClear 4


IntraPet Imaging SPIILLC IntraPet I... MORRISON,SADIE Abd small I C11-3s
06-24-2022 11:55:07 AM PETWELLsmfeldshfs2011abd
AP 96.6% MI 1.4 TIS 0.2
mindray
M8 Elite
Bladder
sediment
B
F H8.0
D 6.0
G 52
FR 26
DR 115
iClear 4


IntraPet Imaging SPIILLC IntraPet I... MORRISON,SADIE Abd small I C11-3s
06-24-2022 11:53:27 AM PETWELLsmfeldshfs2011abd
AP 96.6% MI 1.4 TIS 0.3
mindray
M8 Elite
LT Pancreas
B
F H8.0
D 5.0
G 52
FR 30
DR 115
iClear 4


IntraPet Imaging SPIILLC IntraPet I... MORRISON,SADIE linear ab L14-6Ns
06-24-2022 11:59:59 AM PETWELLsmfeldshfs2011abd
AP 96.6% MI 0.6 TIS 0.1
mindray
M8 Elite
LN
1 Dist 0.38 cm
ICCJ
jejunum
B
F H10
D 3.5
G 63
FR 33
DR 100
iClear 4


IntraPet Imaging SPIILLC IntraPet I... MORRISON,SADIE Abd small I C11-3s
06-24-2022 11:56:32 AM PETWELLsmfeldshfs2011abd
AP 96.6% MI 1.4 TIS 0.2
mindray
M8 Elite
RT Adrenal
1 Dist 0.37 cm
B
F H8.0
D 6.0
G 52
FR 26
DR 115
iClear 4


IntraPet Imaging SPIILLC IntraPet I... MORRISON,SADIE Abd small I C11-3s
06-24-2022 11:56:18 AM PETWELLsmfeldshfs2011abd
AP 96.6% MI 1.4 TIS 0.2
mindray
M8 Elite
RT
1 Dist 3.49 cm
B
F H8.0
D 6.0
G 52
FR 26
DR 115
iClear 4

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