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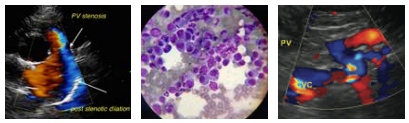

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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DATE
6/24/22

PATIENT
Rai Thomas

SPECIES
Feline

BREED
Domestic Shorthair

SEX
Spayed Female

AGE
10/4/09

WEIGHT
5.9 lbs

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

HOSPITAL NAME
Pet Wellness Center

REFERRING VET
Dr.Twardus

INVOICE
31235

PRESENTING CLINICAL SIGNS

Hyperthyroid cat, weight loss.
Current Medications: Hilll's Y/D food.
Radiographs: Thickened stomach wall.
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 moderately to well distended. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. A very small amount of aggregated, free floating sediment is noted, however, there is no evidence of cystoliths, polyps or a mass.

Kidneys

The **left** kidney measures 2.50 cm (3.80-4.40 cm). The capsule is smooth. The cortex is hyperechoic, i.e., it is isoechoic to the spleen. Its overall architecture, including the definition of the cortico-medullary junction, is preserved for a cat of Rai's age. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. Blood flow is within normal limits. A very small anechoic structure, consistent with a benign cyst, is noted at the cranial pole. The surrounding mesentery is mildly hyperechoic, but does not appear to be associated with the kidneys per se.

The **right** kidney measures 2.97 cm (3.80-4.40 cm). The capsule is smooth. The cortex is hyperechoic. Its overall architecture, including the definition of the cortico-medullary junction. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. Blood flow is within normal limits. The surrounding mesentery is hyperechoic.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.33 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 0.59 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. The mesentery surrounding the spleen is hyperechoic.

Liver

There are no obvious signs of hepatomegaly. The liver's borders are smooth, but mildly rounded. The liver's echotexture is homogeneous and it is within normal limits in echogenicity. Focal lesions are not observed. The walls of the portal veins are hyperechoic and prominent. Other than the latter, no abnormalities are observed with the hepatic vessels. The mesentery medial to the liver is hyperechoic.

The gallbladder (GB) wall is within normal limits in thickness and echogenicity. A small to moderate 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

A large amount of gas is present in the lumen of the stomach. Fluid and gas are visualized at the pylorus in the sagittal view. Decreased peristalsis is observed. The "more normal" gastric wall is thickened at 0.63 cm with a thickened mucosa, prominent submucosa and muscularis, as well as fogging of the muscularis. The wall of the pyloric area is severely thickened and irregular, measuring approximately 0.65 cm.

A complete loss of definition of the wall layers is noted in the region of the pylorus, as well as partial loss focally in the surrounding area. The gastric wall in the affected areas is echogenic compared to the "normal" wall. The mesentery surrounding the stomach is severely hyperechoic. The sonographer commented on how painful Rai was in this area and the right cranial quadrant, while having been comfortable during the rest of the exam.

Duodenum: Subtle fogging of the muscularis is noted. Subjectively, the mucosa is more prominent than usual. It measures 0.24 cm.

Small intestines: The definition of the wall layers is preserved, however, the submucosa of the small intestines is prominent and fogging of the mucosa and muscularis is noted. No major abnormalities are observed with the ileocecal colic junction.

The colonic wall is at the high end of the normal reference range, with preservation of mural detail is considered normal. Formed stools are present within the colon.

Pancreas

The pancreas is moderately enlarged and hypoechoic. Its contours are slightly irregular. The surrounding mesenteric fat is severely hyperechoic. The changes are highly suggestive of active pancreatitis. Overt signs of neoplasia are not noted.

Other

Lymph nodes
No abnormalities are observed

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

- **Gastrointestinal (GI) tract:** Thickening and loss of detail of the wall layers of the stomach, particularly the pylorus, demonstration of pain, and weight loss. Infiltrative disease, such as lymphoma, adenocarcinoma, leiomyosarcoma and leiomyoma are possible causes. The mild, yet diffuse changes throughout the GI tract are more suggestive of lymphoma.

- **Pancreas**: signs of active pancreatitis are noted. The inflammation may be secondary to the gastric pathology rather than primary pancreatitis. Overt signs of neoplasia are not appreciated.

- **Liver**: No obvious abnormalities are observed, however, *subclinical cholangitis/cholangiohepatitis* cannot be excluded, particularly with the abnormalities of the pancreas and stomach.

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

- **Kidneys:** Very mild age-related degeneration. The hyperechoic cortices may be due to interstitial nephritis. Pyelonephritis is considered less likely, but cannot be excluded despite the absence of classical sonographic signs.

- **Urinary bladder**: The debris is likely composed of mucus, crystalline material and exfoliated cells, however, subclinical bacteruria and pyelonephritis cannot be excluded, particularly in older cats.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

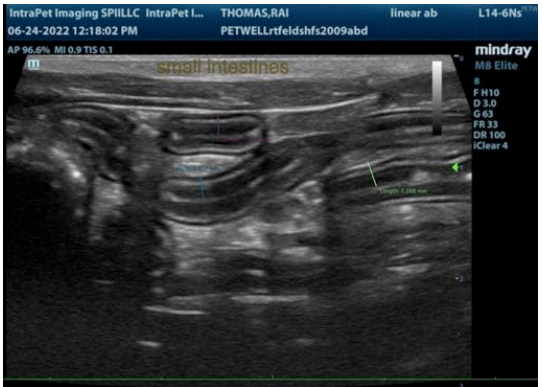
The following are suggested/recommended
Although ultrasound guided fine needle aspirates of the stomach may be attempted, there is a concern for difficulty to obtain an appropriate window to perform the procedure, and most importantly, the risk of non-diagnostic samples. The lesions are deep enough that endoscopy with biopsies of the stomach (and duodenum) may be considered. Although much more invasive, surgically obtained biopsies are also possible if Rai is an appropriate candidate for general anesthesia.

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.
Small, frequent meals

Treatment of nausea

Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid or proton pump inhibitor may be considered depending on the history (famotidine or omeprazole (0.7-1 mg/kg PO q12h)).
A urinalysis and urine culture and sensitivity to exclude pyelonephritis.

Depending on above results, +/- TLI, serum cobalamin, and folate, +/- spec cPL to assess for *secondary complications*, such as maldigestion/malabsorption and dysbiosis.
+/- Supplementation with cobalamin
If further diagnostics are not pursued, although not ideal, empirical treatment for lymphoma may be attempted. For example, prednisolone (1 mg/kg/day), and then tapered to the minimum effective dose. This will be ineffective/less effective if the disease process is due to a carcinoma, leiomyosarcoma or leiomyoma.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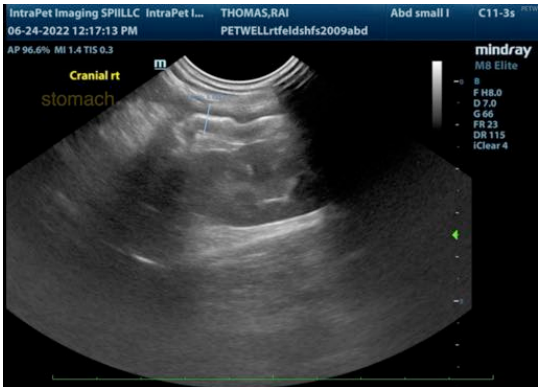
mindray
M8 Elite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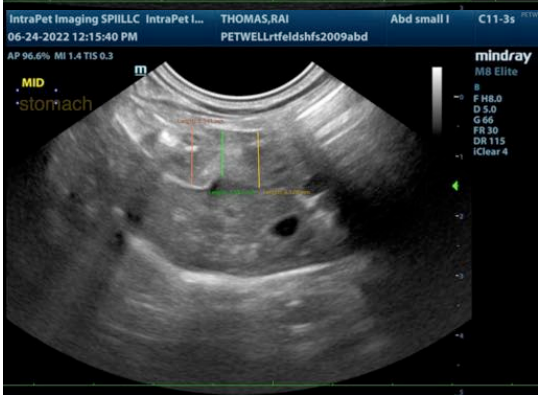
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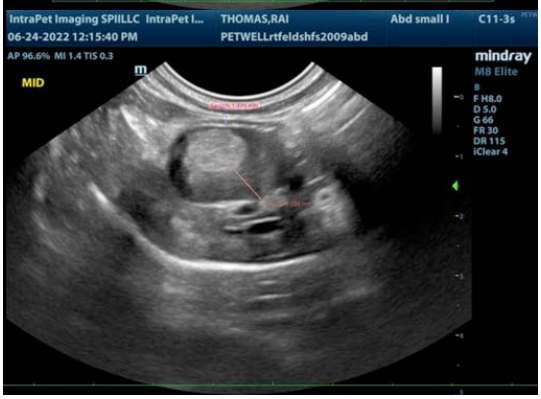
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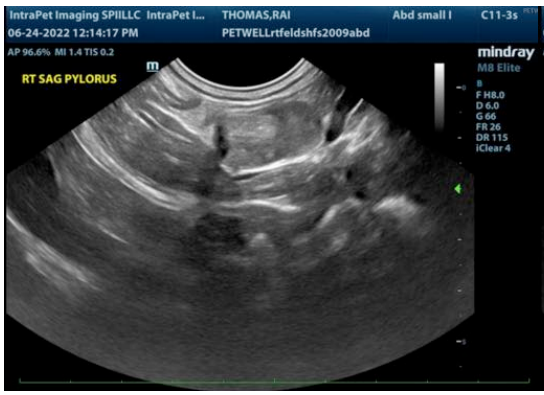
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RT SAG PYLORUS
mindray
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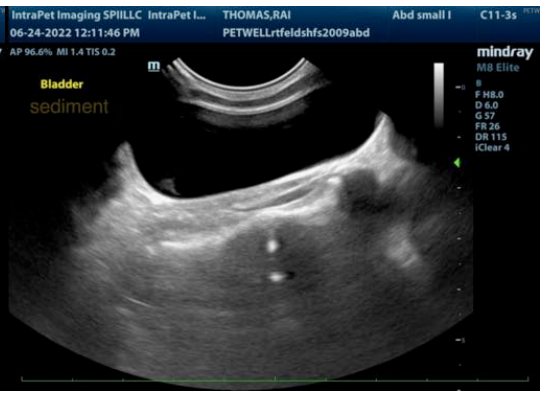
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Bladder
sediment
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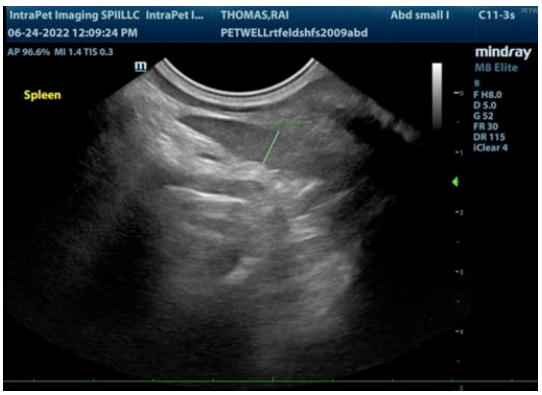
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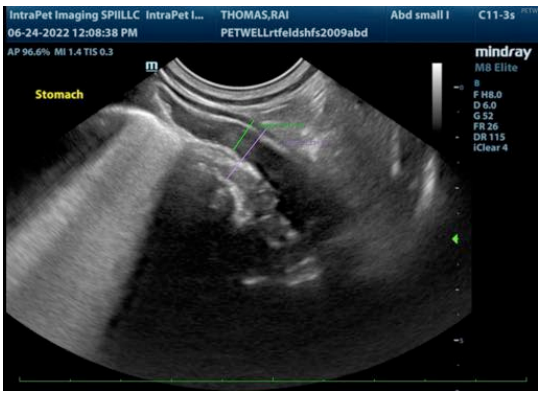
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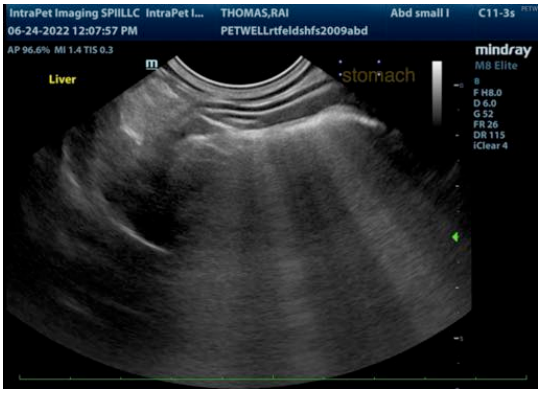
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Liver
stomach
mindray
M8 Elite


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RT SAG PYLORUS
1 Dist 2.16 cm
2 Dist 1.31 cm
mindray
M8 Elite


IntraPet Imaging SPIILLC IntraPet I... THOMAS,RAI Abd small I C11-3s
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RT Adrenal
1 Dist 0.37 cm
mindray
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RT
1 Dist 2.85 cm
mindray
M8 Elite


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Colon ICCJ
mindray
M8 Elite


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LT
mindray
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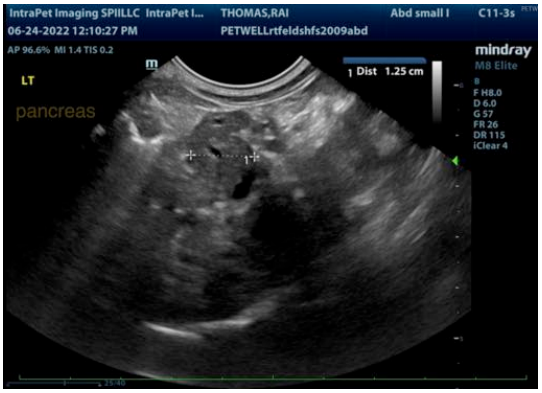

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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Lisa.Carioto@sonopath.com