IMAGING PERFORMED BY

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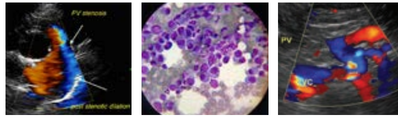

SonoPath
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DATE

3/16/23

PATIENT

Fat Boy Armstrong

SPECIES

Feline

BREED

Norwegian Forest Cat

SEX

Neutered Male

AGE

8/31/12

WEIGHT

12.7 Pounds

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

HOSPITAL NAME

Bay Country VH

REFERRING VET

Dr. McLean

INVOICE

45977

PRESENTING CLINICAL SIGNS

Intermittent weight loss, inappetence for 1-2 months. FPL 2/18/23 43.2 (0-3.5). Diabetic, receives 1 unit BID when he eats.

Current Medications: Mirataz SID, 1 unit Lantus BID if eating. SQF and Cerenia injections occasionally.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Stephanie Warga RDCS, RVT.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with mild primarily suspended echogenic debris present. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or calculi. Echogenic debris of this type can be associated with small crystals, cellular debris and proteinaceous debris.

The left kidney is borderline large at 4.62 cm. It is slightly hyperechoic but has normal corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is borderline large at 4.95 cm. It is slightly hyperechoic but has normal corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.44 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.32 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal
The stomach contains minimal luminal contents. It measures at a normal thickness of <0.36cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall thickness is normal to slightly increased. Bowel loops follow a typical curvilinear path with distinct wall layering, but some areas display a prominent muscularis layer which does not display the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measures 0.34 cm. Jejunum wall measures 0.31 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas
The pancreas is prominent and hypoechoic as compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid. Prominent pancreatic duct noted.

Free Abdomen
Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is an occasional prominent mesenteric lymph node. One such lymph node measures 0.42 cm. The omentum is of normal echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Echogenic debris in the urinary bladder – The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus.

- Prominent, hypoechoic pancreas with prominent pancreatic duct – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

- Thickened small intestine with prominent muscularis layer – The small intestinal wall changes could be consistent with an underlying inflammatory process. These types of changes can sometimes be seen in normal older cats. Correlate with clinical signs.

- Borderline large/hyperechoic kidneys – The significance of this is unclear in a non-azotemic patient. These kidneys could be normal for a large cat. Other differentials would include FIP, lymphoma, pyelonephritis, acute renal failure, amyloid, etc., but these seem unlikely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The pancreas appears prominent and hypoechoic throughout the abdomen with a prominent pancreatic duct. There is some mild surrounding inflammation. Findings are most consistent with mild chronic pancreatitis and/or previous episodes of pancreatic inflammation.

Additionally, the small intestine appears somewhat thickened with a prominent muscularis layer and “ropey” appearance. This can be a normal finding in some older cats but can also be associated with primary GI disease.

Additionally, the kidneys appear somewhat prominent, large, and slightly hyperechoic. The significance of this is uncertain, as there is no azotemia present, and the kidneys appear normal in shape. In larger cats,

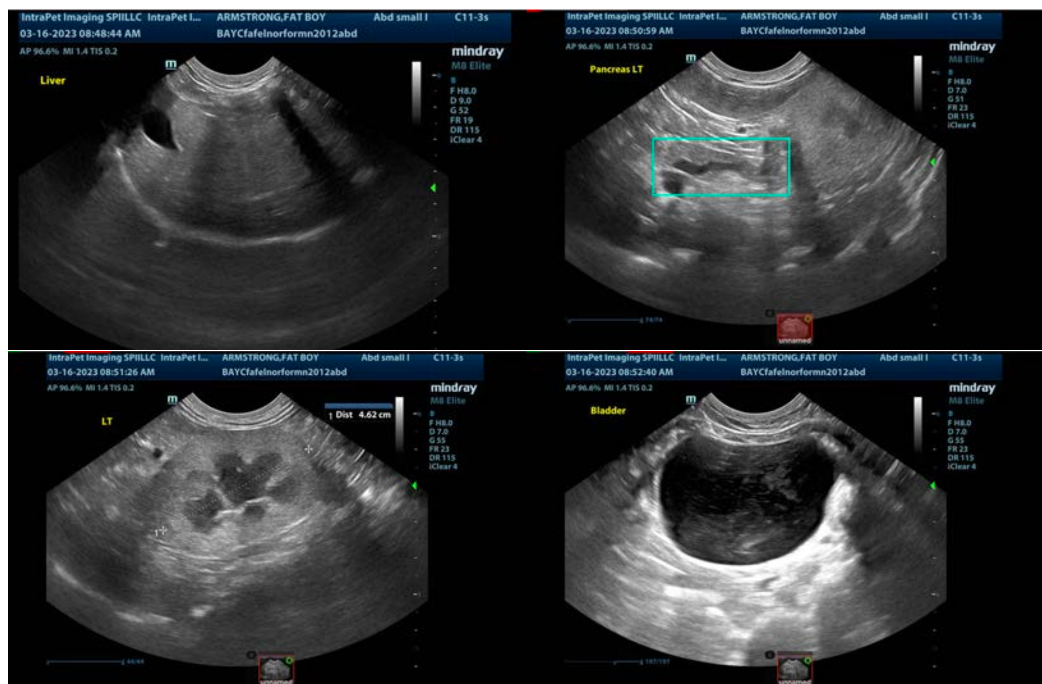
normal renal size can be up to 5.3 cm, so these could be normal kidneys in a larger cat. Other differentials such lymphoma, pyelonephritis, acute renal failure, etc. are less likely, given the normal bloodwork. Recommend a urinalysis, culture, blood pressure, and continued monitoring of the kidneys.

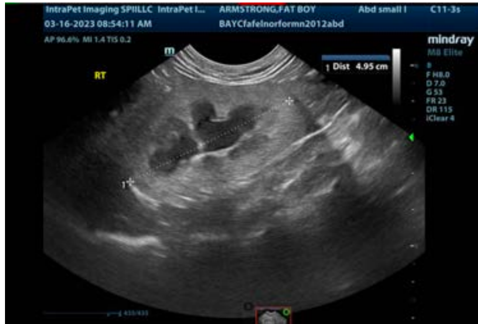
In this situation, I'm more concerned about the pancreatic and small intestinal changes. Recommend treatment for pancreatitis and consider the following for further evaluation of possible primary gastrointestinal disease.

- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks)
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc.. to further evaluate for pancreatic/small intestinal disease.
- Recommend chronic probiotic therapy.
- If symptoms persist, GI biopsies may be necessary to further evaluate this issue.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

If the patient continues to decline and there is any further concern about the kidneys, consider repeat imaging in the future.

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RT
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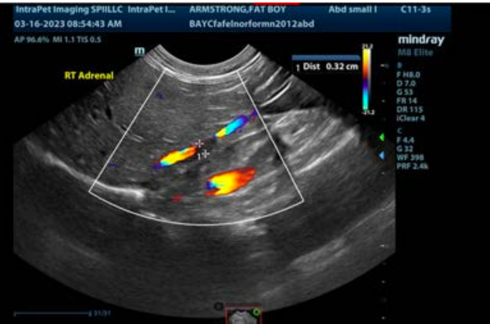
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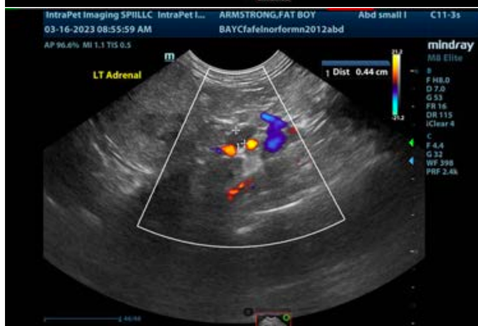
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LT Adrenal
Dist 0.44 cm

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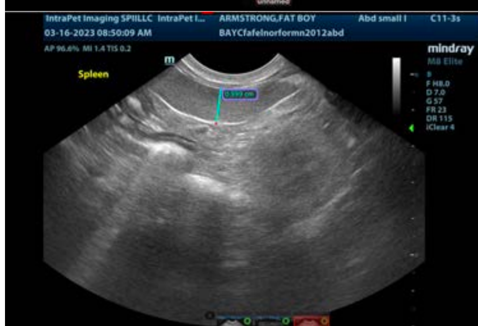
Dist 0.34 cm
SI- PROM MUSCULARIS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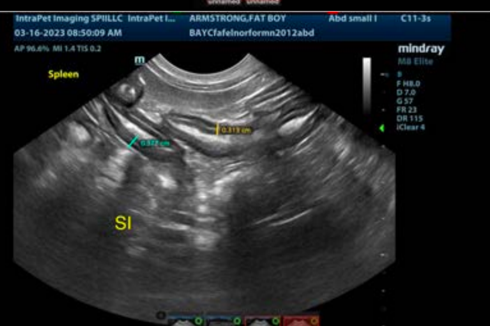
Spleen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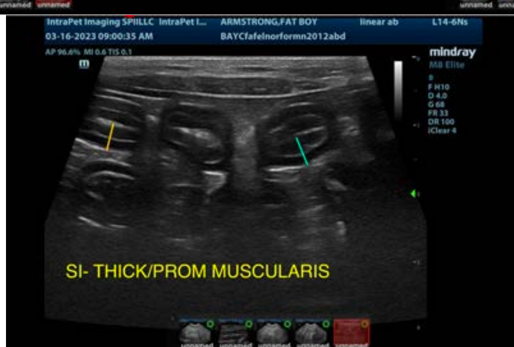
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mindray
SI- THICK/PROM MUSCULARIS

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.

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