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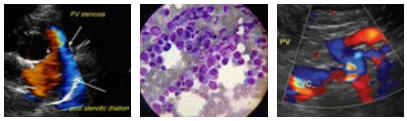

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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DATE

12/2/21

PATIENT

Otis Rose

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

5/15/07

WEIGHT

12.1 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Bayside AMC

REFERRING VET

Dr. Beigel

INVOICE

33186

PRESENTING CLINICAL SIGNS

History: Hx of wt loss though per Owner has gained some wt back, waxing/waning appetite/picky eater; 9/21/20 ALT 162, ALP 54;
today (12/1/21) ALT >1000, ALP 214 r/o neoplasia v infxn v parasite v other.

Lab Results: Attached separately within request.
Date of Previous IntraPet Ultrasound: No previous IntraPet scans.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

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 has a normal shape and size (4.43 cm) with pyelectasia (0.45 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and is relatively normal in size (4.33 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is a large, asymmetrical, fluid dilated structure measuring 1.13 cm within the medullary area of the kidney. This is most consistent with an asymmetrical pyelectasia or pyelectasia with a communicating renal cyst/abscess. There is classic renal pelvic dilation visualized at 0.65 cm, and the proximal ureter is dilated at 0.25 cm. There is no evidence of an obstructive stone or mass effect visualized.

Adrenal Glands

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. 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 mildly heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. 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. Jejunum wall measured 0.32 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. Pancreatic duct measures 0.24 cm.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is a mild to moderate mesenteric lymphadenopathy present with mesenteric lymph nodes measuring 0.31, 0.45, and 0.42 cm. The omentum is generally of increased echogenicity.

PRIMARY FINDINGS

- Bilaterally reduced corticomedullary distinction and pyelectasia evident with rare, non-obstructive nephroliths – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the left/right kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

- Suspect mild right renal hydronephrosis and hydroureter – This lesion could be consistent with a renal cyst or abscess as well. No obstruction is visualized.

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

- Mildly heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.

- Prominent muscularis layer to the small intestine – The small intestinal wall changes are most consistent with an inflammatory process (i.e., inflammatory bowel disease) with a low possibility of emerging lymphoma.

- Mild mesenteric lymphadenopathy – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.

SECONDARY FINDINGS

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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The primary indication for this ultrasound was the elevated ALT. No focal lesions were visualized associated with the liver, and it is very mildly heterogeneous, which could be an age related change. Unfortunately, the sonographic changes do not always reflect the severity or cause of the hepatopathy Systemic causes for cats with elevated liver enzymes include hyperthyroidism, toxicity (meds, etc.), infections (bacterial FIP, sepsis, etc.). If these conditions are unlikely, then a primary hepatopathy (infectious, inflammatory, lipidosis, neoplasia) is suspected.

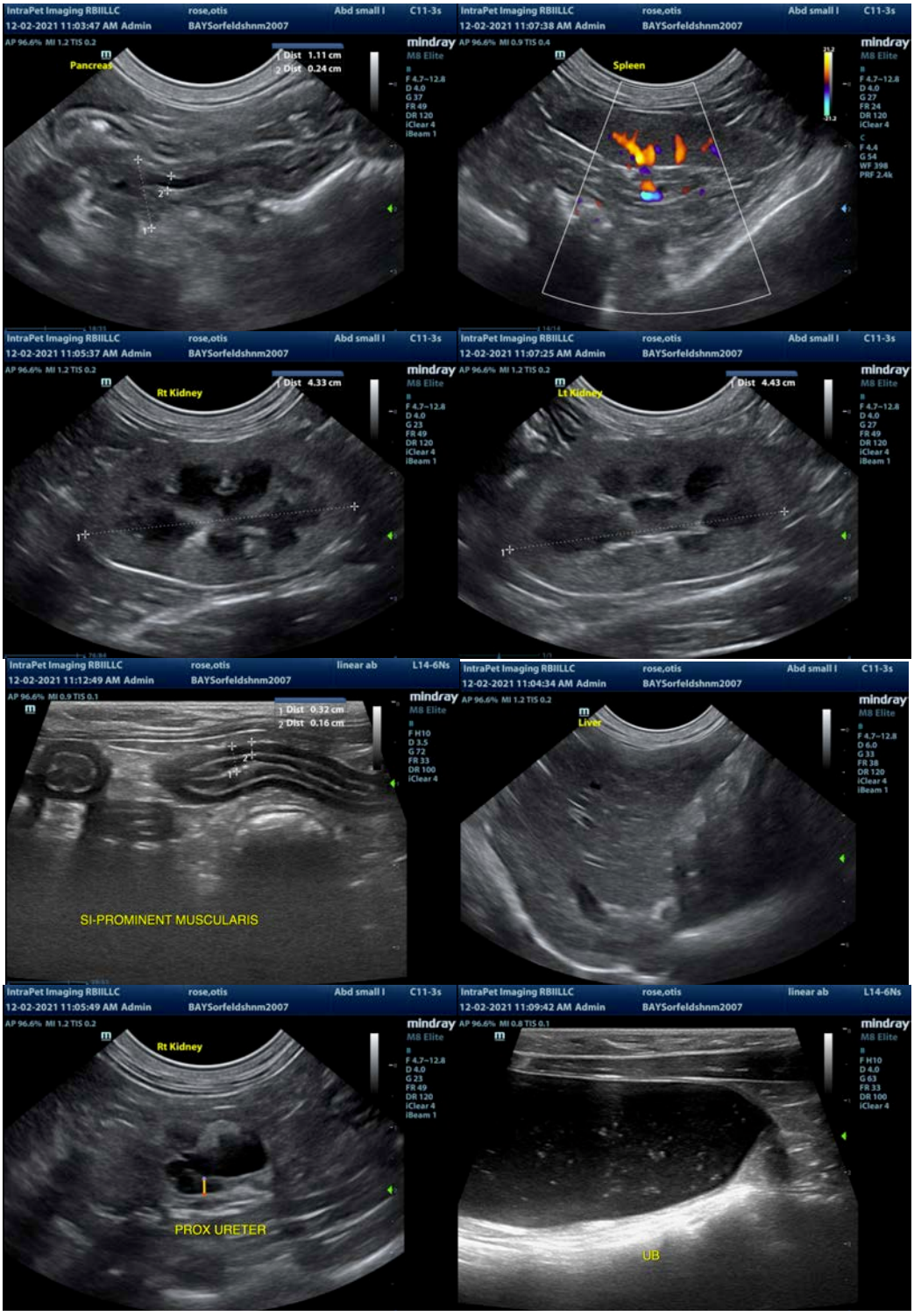
- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc..
- Recommend thyroid evaluation (if not already done)
- If not already done consider pre and post prandial bile acids to evaluate liver function
- Consider fine needle aspirate if round cell neoplasia is on your differential list (25 g needle, normal coags)
- If cytology is not helpful and there is no response to therapy, consider liver biopsy with samples obtained for histopathology and culture.
- If triaditis is suspected consider therapy for cholangiohepatitis (fluids, antibiotics , +/- ursodiol,+/- steroids), testing for pancreatitis and evaluation for IBD (GI panel to Texas A&M GI lab)
- Consider a feeding tube if patient is not eating for a prolonged period of time

In addition to the liver issues, both kidneys appear abnormal. There appears to be dilation of both with more severe involvement of the right kidney. An obvious obstruction is not visualized, which could be consistent with a previous obstruction, a stricture, or pyelonephritis.

- Recommend urinalysis and culture to look for underlying infection.
- Recommend blood pressure evaluation.
- Recommend continued monitoring of both kidneys with ultrasound. If renal pelvic dilation is progressing or renal values are elevating, then you could consider advanced imaging (contrast CT scan) of the kidneys to look more closely for evidence of an obstruction, stricture, etc. It is difficult to say if this is a current clinical issue or not, but I would definitively screen for hypertension and pyelonephritis.

There are also changes observed involving the small bowel and mesenteric lymph nodes. These are non-specific changes, but can certainly be related to the weight loss.

- Consider a GI panel for a PLI, TLI, cobalamin and folate to Texas A&M University to further evaluate the pancreas and small intestine (as recommended above).
- Recommend a novel protein/hydrolyzed protein prescription diet.
- Consider treatment with a probiotic.
- If weight loss continued and renal issues are not progressing, then you could consider biopsies of the small intestine, liver and mesenteric lymph nodes.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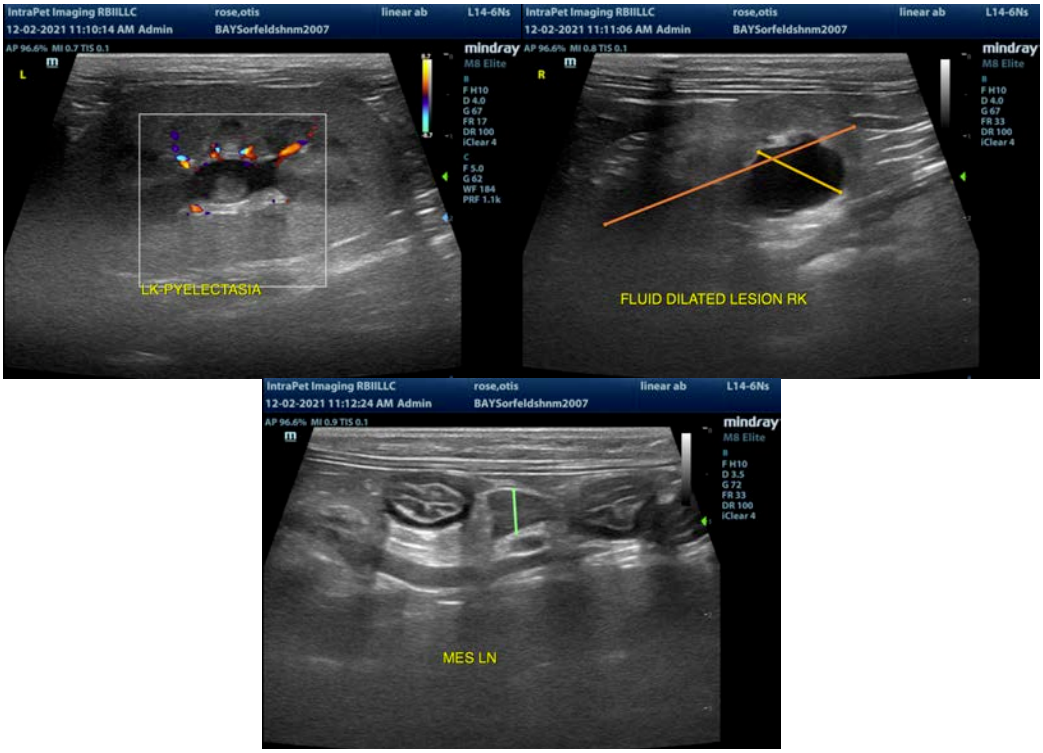

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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