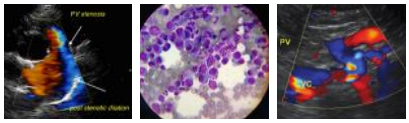


DATE

3/20/23

PATIENT

Louis Hickey

SPECIES

Canine

BREED

Shih Tzu

SEX

Neutered Male

AGE

10/8/10

WEIGHT

25 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

HOSPITAL NAME

Animal Emergency Hospital

REFERRING VET

Dr. Trout

INVOICE

21725

PRESENTING CLINICAL SIGNS

History: Not eating last 2 days. Lethargic. Small urine production, managed cushings for over a year, originally on vetoryl but then switched to other meds. Has not received his meds for last couple days.

Current Medications: Proviable, Ondansetron, Entyce, Protonix, Unasyn, Metronidazole.
Lab Results: See attached.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: IV: Butorphanol.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots, including some mineral/sand dependent debris, punctate cystoliths can't be ruled out. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Left kidney is normal in size (4.44 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia is observed. Small nonobstructive nephroliths are present. An infarct is present in the caudal pole of the left kidney.

Right kidney is normal in size (4.81 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. Small nonobstructive nephroliths are present.

Adrenal Glands

Adrenal glands are largely normal in size, shape and contour. Some parenchymal heterogenicity is present without concerning capsular distortion. These changes are likely normal for this age but should be monitored if there is any suspicion of adrenal disease. The right adrenal gland measures 1.85 cm long x 0.64 cm at the cranial pole and 0.61 cm at the caudal pole. The left adrenal gland measures 1.89 cm long x 0.66 cm at the cranial pole and 0.76 cm at the caudal pole.

Spleen

Spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is subjectively mildly increased in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is moderately over distended with fluid, as well as echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness and layering. Contents are consistent with liquid to soft stool.

Pancreas

Pancreas is prominent in size with swollen irregular contour. Parenchyma is heterogenous characterized by hyperechoic tissue remodeling intermixed with ill-defined hypoechoic nodules. There is no visible pancreatic duct dilation. Mildly enhanced hyperechoic mesenteric fat is noted, surrounding the pancreas.

Free Abdomen

A very very scant amount of anechoic free fluid is noted. There is no apparent lymphadenopathy.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Pancreatic nodular hyperplasia – Infiltrative neoplasia cannot be ruled out but is considered less likely. Given the enhanced mesenteric fat, low-grade smoldering chronic pancreatitis and/or acute on chronic pancreatitis cannot be ruled out and should be suspected in the face of this patients clinical signs.

- Gastric distention is likely ileus, secondary to the pancreatitis, there is no evidence of outflow obstruction.

- Mild subjective hepatomegaly is suspected, although x-rays are typically a better indicator of the liver size. This may be normal patient variant, and trends in appearance towards benign. If not a normal patient, differentials include steroid or endocrine or vacuolar hepatopathy or reactive or idiopathic hepatopathy. However, given this patients reported lymphocytosis and suspicion for lymphoma, infiltrative lymphoma, while considered less likely, is possible.

Secondary Finding

- Urinary bladder, including mineral/sand debris

- Bilateral nonobstructive nephrolithiasis

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

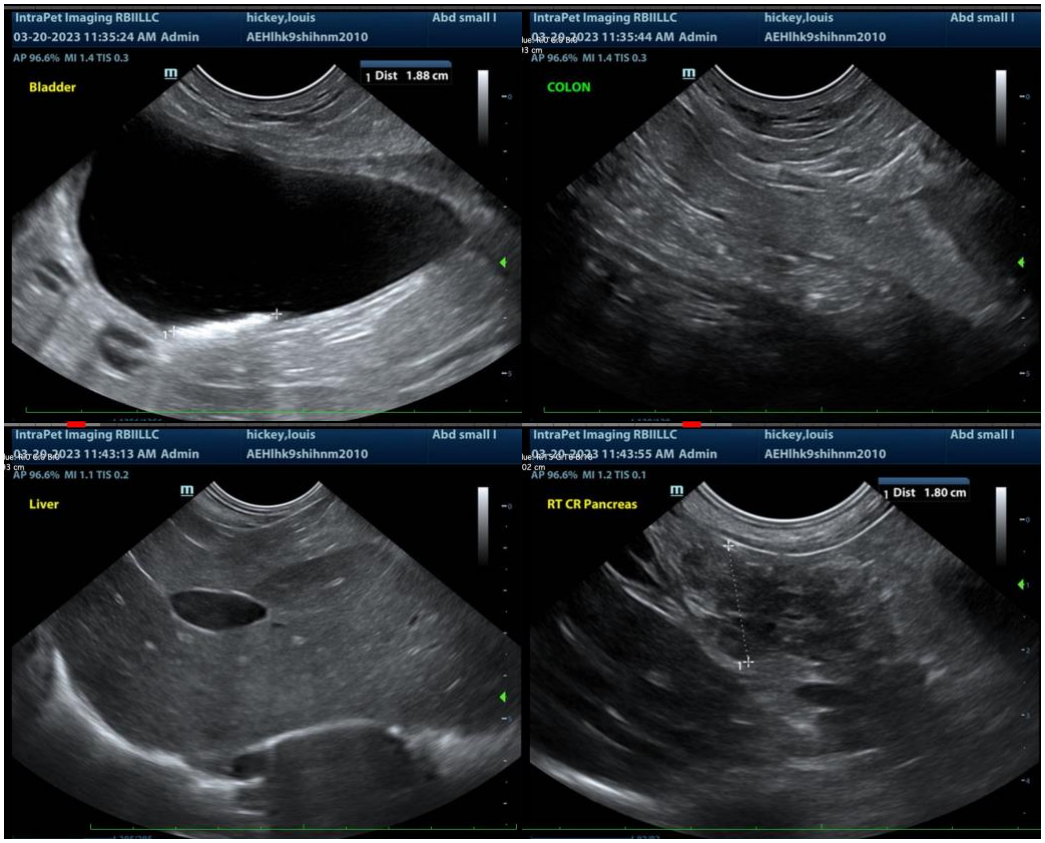
Overall, based on ultrasound, this patients clinical signs are suspected to be secondary to pancreatitis, and if not recently evaluated, a quantitative PLI is recommended, followed by medical management of

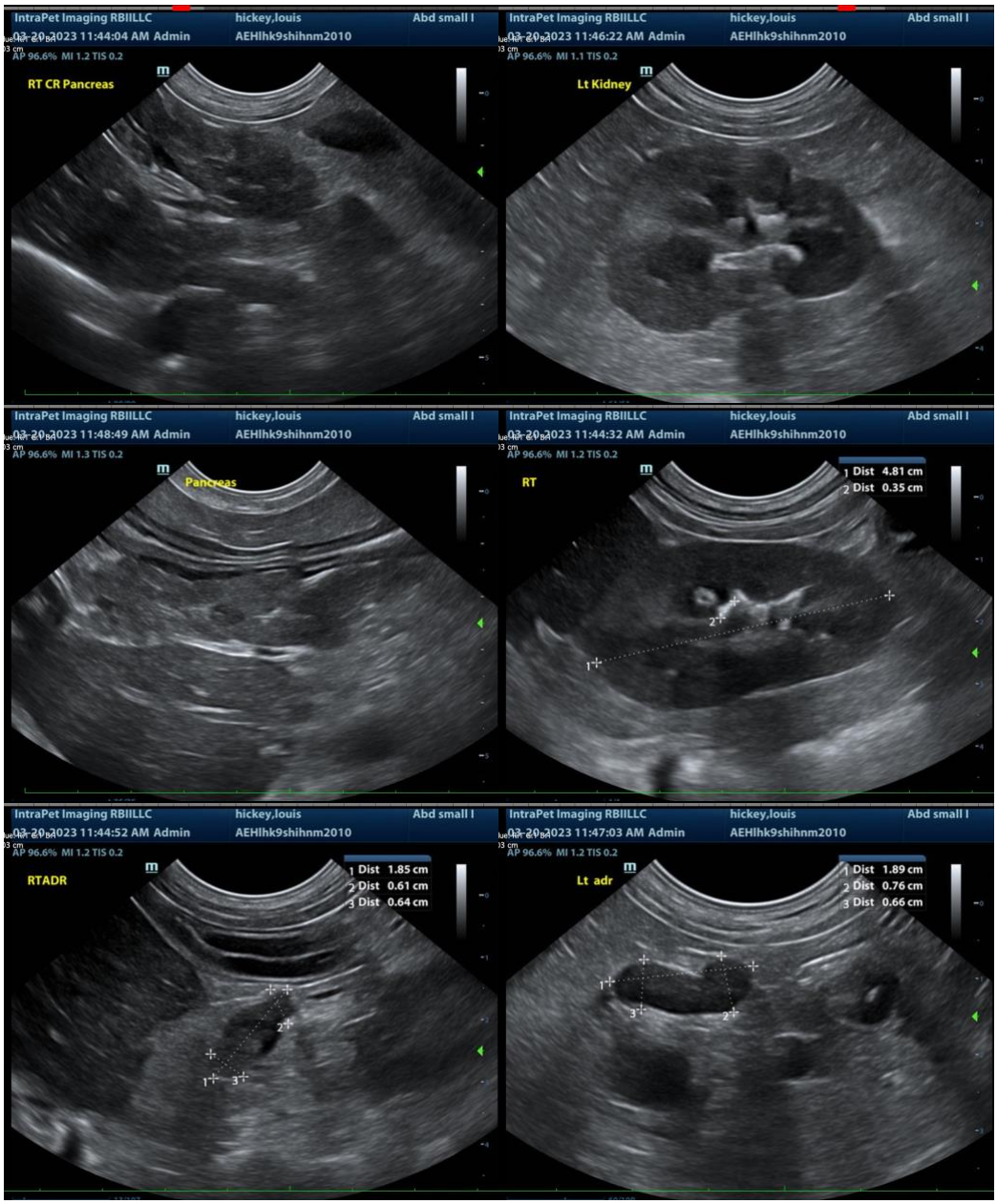
pancreatitis with anti-emetics, gastroprotectants, appetite stimulants or nutritional support as needed, pain management, broad spectrum antibiotics, and fluid therapy is recommended. If possible, a fresh frozen plasma transfusion and hyperbaric oxygen therapy (HBOT) could be beneficial. Monitoring of the pancreas with power doppler is recommended to identify possible necrosis as well as other potential sequelae such as abscesses, etc.

Given this patients lymphocytosis and suspicion for lymphoma, however, pending response to treatment, and pending lymphocyte count with, hopefully, improvement of pancreatitis, a fine needle aspirate of the pancreas could be considered if patients coagulation status is appropriate, as could a fine needle aspirate of the liver.

Beyond that, or prior to that, flow cytometry on the peripheral blood, and/or consultation with a veterinary oncologist could be considered as well.

If not recently evaluated, urinalysis and, if indicated based on urinalysis results, urine culture is recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

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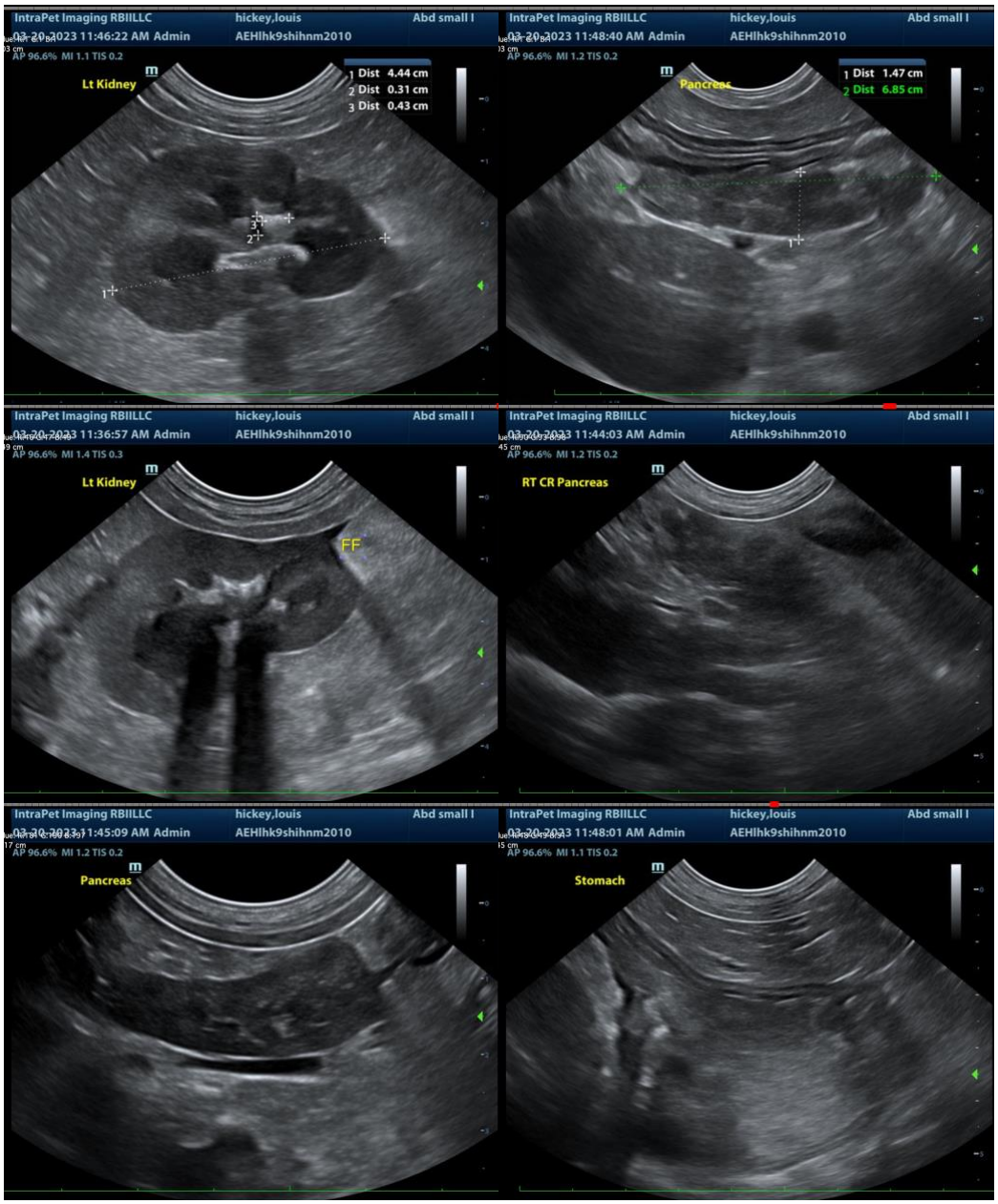
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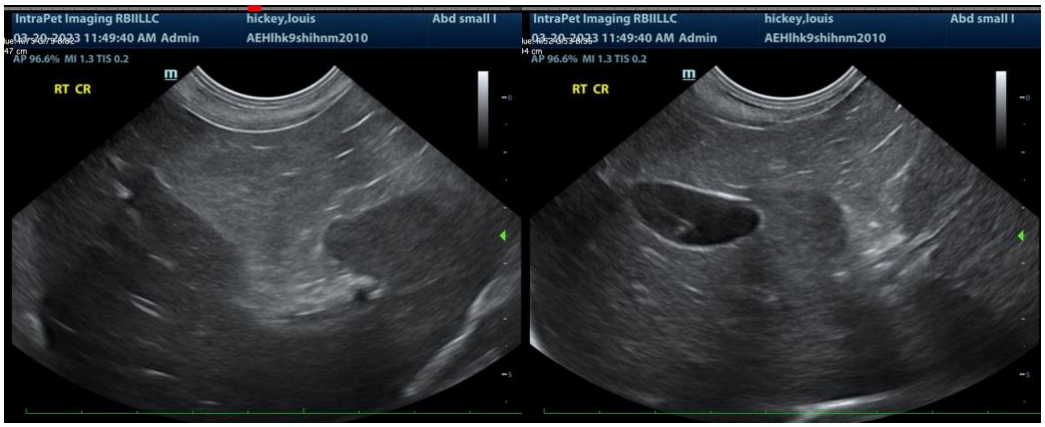
Stomach



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.

Beth Johnson, DVM DACVIM
Beth.Johnson@SonoPath.com