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Clinical Sonography & Telecytology
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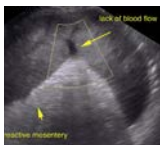
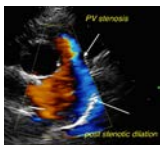
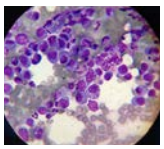
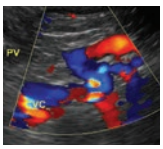

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1-800-838-4268 info@sonopath.com

PATIENT
Rajan Adams

SPECIES
Feline

BREED
Siamese

SEX
Neutered Male

AGE
11 Years 11 Months

WEIGHT
7.44 Pounds

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

IMAGING PERFORMED BY
Dr. Lucas Budden

HOSPITAL NAME
Frontier VH

REFERRING VET
Dr. Lucas Budden

INVOICE
38466

DATE
6/7/22

PRESENTING CLINICAL SIGNS

5/18/2022 visit: January 2022 started losing weight. Was not eating dry food at that point but had appetite. Started feeding more wet food. Eating wet food well now (1, 5.5 oz can per day), eats temptations treats too, gained back some weight, having some constipation. Will strain and then vomit. Has a history of intermittent vomiting. Last noted weight in December of 2019 was 14#. Ultrasound aimed to assess for an underlying cause of weight loss outside of dental pain.
Abnormal PE/Chem/CBC/UA Results: 5/18/2022 exam: BCS 4/9, MCS 2/3, grade 1-2/6 parasternal systolic HM, severe dental calculus and gingivitis, multiple FORLs. No change on today's exam. CBC/Chem/UA/T4/BNP 5/18/2022 SDMA 26 (H), BUN/Crea wnl, ALP 130 (H), rest of chem wnl. T4 1.6 (wnl) ProBNP 81 (wnl) UA: USG 1.022, trace ketones (no glucose, normal BG, insignificant finding), RBC >100 (r/o due to cystocentesis?), protein 1+ (r/o due to RBC contamination), no bacteria or significant WBC. BP today 147 avg

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. 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 cystic calculi.

The left kidney is large and irregular in shape, measuring 3.85 cm. Moderate sized non-obstructive nephroliths visualized measuring 0.3, 0.4, and 0.22 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 pyelectasia, infarcts or hydroureter. Renal vasculature is normal. The appearance of the kidney is rounded with very atypical architecture, most consistent with renal dysplasia or possibly infiltrative neoplasia.

The right kidney is normal/borderline small in size and abnormal in shape with decreased corticomedullary distinction at 2.82 cm. Small non-obstructive nephroliths are visualized. 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 pyelectasia, infarcts or hydroureter. Renal vasculature is normal. The kidney shape and architecture are very abnormal. Findings are most consistent with renal dysplasia or infiltrative neoplasia.

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.

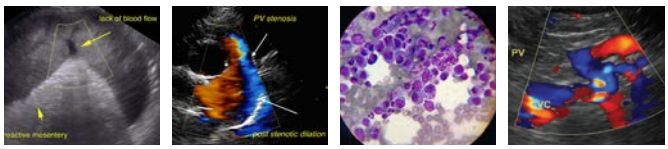
The right adrenal gland is normal in size measuring 0.36 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is borderline large in size (1.0 cm in width at the level of the hilus), 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 large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the



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vasculature and biliary tract appear normal. There is a hyperechoic nodule measuring 1.03 cm x 0.95 cm visualized within the parenchyma.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are 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 measured 0.32 cm. Jejunum wall measured 0.26 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

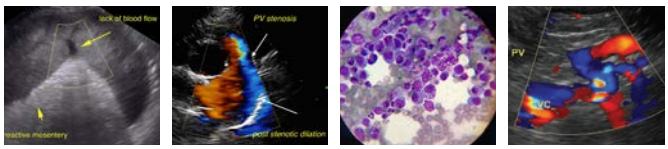
The pancreas is prominent and hypoechoic as compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Hyperechoic, irregular kidneys with decreased corticomedullary distinction and non-obstructive nephroliths – Both kidneys are very irregular in shape and architecture. These findings would be most consistent with renal dysplasia or possibly infiltrative neoplasia.
- Hypoechoic, prominent pancreas – The pancreatic changes are most consistent with mild to moderate pancreatitis/pancreatic inflammation. Recommend fPLI testing and continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving.
- Large, heterogeneous liver with hyperechoic nodule – Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis or other hepatopathy. The nature of the hyperechoic lesion is uncertain. A fine needle aspirate could be considered.
- Subjectively thickened small intestine with prominent muscularis layer – The small intestinal wall changes are most consistent with an inflammatory process (i.e., inflammatory bowel disease) with a low possibility of emerging lymphoma.



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SECONDARY FINDINGS

- Borderline large spleen

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

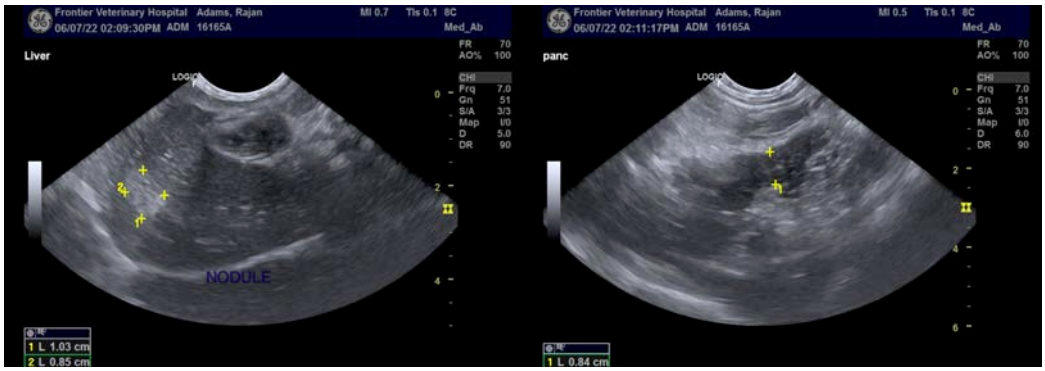
Both kidneys are very irregular in shape and architecture. The left kidney is large and rounded with moderate sized non-obstructive nephroliths. The right kidney is smaller with smaller stones visible. The nature of these changes is uncertain. If longstanding renal disease has been present, then consider possible renal dysplasia, but neoplastic infiltration cannot be excluded as a possibility. If these renal changes are thought to be new, consider a fine needle aspirate of the kidneys (left kidney for aspirate would be ideal). Recommend blood pressure, urine protein to creatinine ratio, urinalysis and culture for a baseline evaluation of the kidneys.

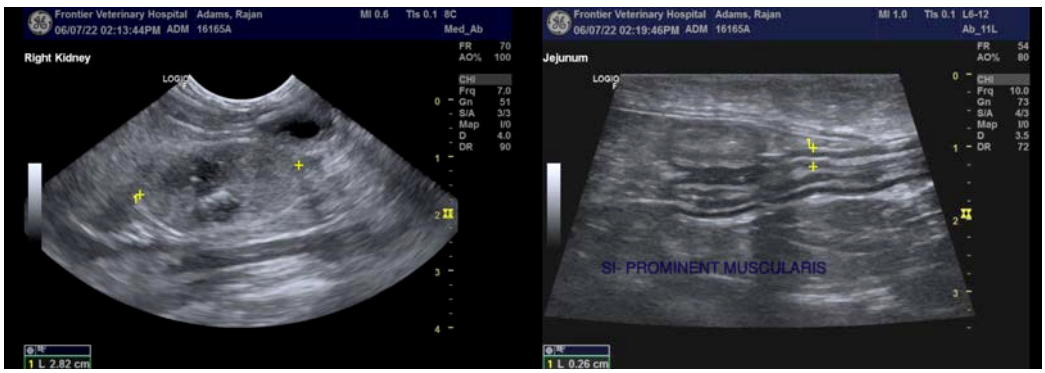
The pancreas is hypoechoic and prominent, but not significantly enlarged. Correlate these findings with a quantitative fPLI, TLI, cobalamin and folate (GI panel to Texas A&M) to further evaluate the pancreatic and small intestinal changes observed. A fine needle aspirate of the pancreas could be considered to rule out infiltrative disease.

The liver is heterogeneous with a hyperechoic nodule. Liver enzyme elevations are not severe, but any elevation in ALP is significant in a cat. Consider a liver function test and a fine needle aspirate of the liver.

The small intestine appears subjectively thickened with prominent muscularis layer. This can be a normal finding in some older cats, but given the GI signs reported, this could be significant. Correlate these findings with the findings of the GI panel recommended above. Consider a novel protein/hydrolyzed protein prescription diet, and if symptoms persist, consider obtaining GI biopsies.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.





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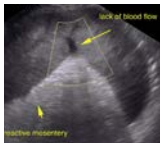
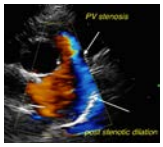
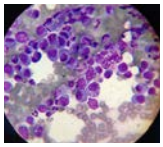
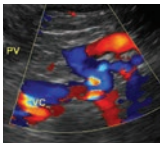

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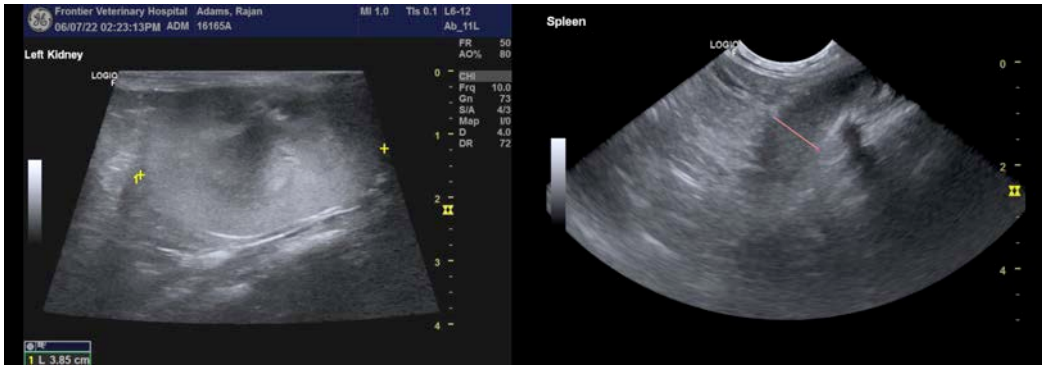

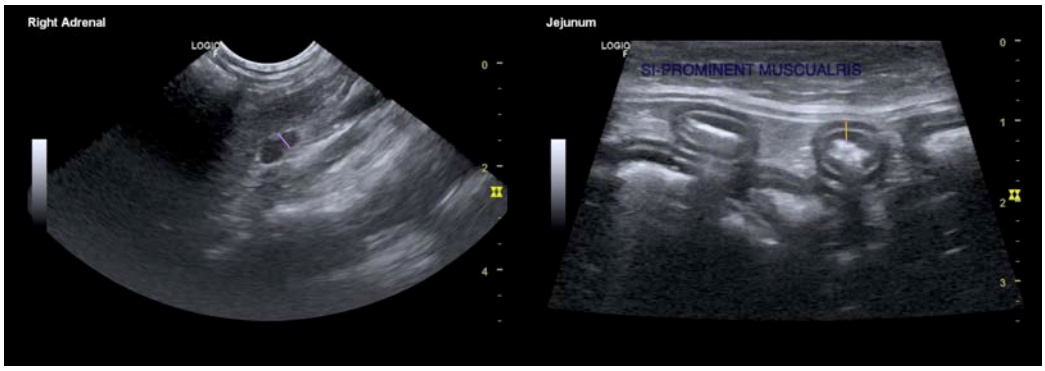

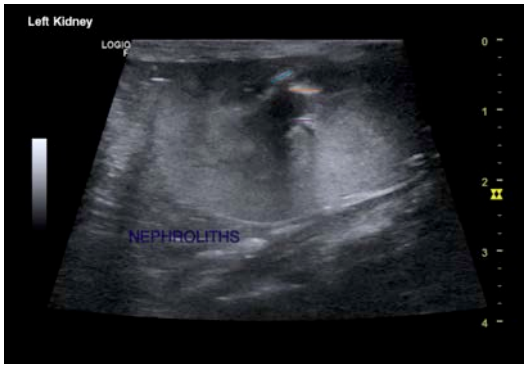

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

kathleen.sennello@sonopath.com