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Clinical Sonography & Telecytology
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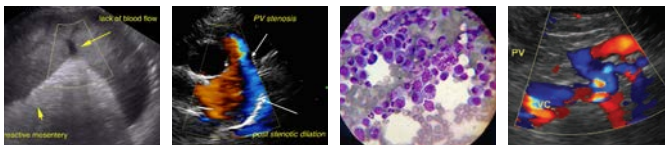

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1-800-838-4268 info@sonopath.com

PATIENT
Pixie Herbst

SPECIES
Feline

BREED
DSH

SEX
Spayed Female

AGE
19 Years

WEIGHT
4.7 kg

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Dr. Jolee Stegemoller

HOSPITAL NAME
North Idaho AH

REFERRING VET
Dr. Talitha Neher

INVOICE
40300

DATE
8/10/22

PRESENTING CLINICAL SIGNS

CRF, recent episode of vestibular dz which resolved. Starting 8/8 PM inappetence to anorexia (mrs o says 75% normal appetite/mr o says complete anorexia), sneezing fits, facial twitch or tic while resting with no known trigger. P appears mentally appropriate to Mrs O. No hx of hyperthyroidism or hypertension.

Abnormal PE/Chem/CBC/UA Results: Non visual on PE; no dazzle or tracking of light or objects in exam room. Repeat labs: neutrophilia, monocytosis thrombocytopenia (50; historically similar results; verified platelet clumps on slide) hyperglycemia/glucosuria (prev no hx of transient stress hyperglycemia or glucosuria on labs). Blood pressure average of 3 readings in (): BP: S 150, 149, 157 (152); D 117, 99, 102 (106); MAP 126, 101, 115 (114); HR 174, 186, 184 (181) on freestyle today BG 80, 99, (fed 1 hr before next reading), 57, 99 : Primary reason for ultrasound referral: r/o evidence of neoplasia/pancreatic neoplasia vs pancreatitis vs other source of neutrophilia, monocytosis

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Kidneys are bilaterally small, irregular and diffusely echogenic with decreased corticomedullary distinction and poor visualization of internal architecture. There is no pyelectasia noted and no mineral is observed. The left kidney measures 3.0 cm. The right kidney measures 3.5 cm. A hyperechoic band parallel to the corticomedullary border is present in both kidneys.

Adrenal Glands

The right adrenal gland is normal in size (0.37 cm at the cranial pole and 0.25 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.37 cm at the cranial pole and 0.51 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

The 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

The liver is subjectively normal 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.

The 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.

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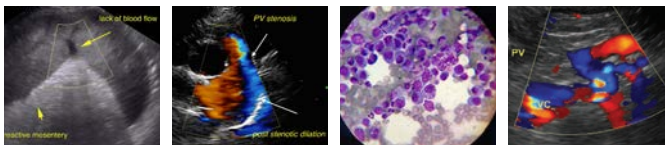

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Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The stomach is moderately fluid distended. There is no evidence of obstructive material. However, partial gastric outflow obstruction cannot be definitively ruled out.

The visible small intestine demonstrates areas of thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular, thick and hyperechoic, without evident loss of layering appreciated. The small bowel is also mildly fluid/chyme distended.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. The colon is moderately distended with echogenic fluid.

Pancreas

Pancreas is prominent in size with swollen irregular contour. Parenchyma is heterogenous characterized by hyperechoic tissue remodeling intermixed with ill-defined hypoechoic nodules. Pancreatic duct dilation is noted. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

The mesenteric lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

ULTRASONOGRAPHIC FINDINGS

- **Inflammatory bowel disease (IBD) pattern –** Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. No aggressive lymphadenopathy, loss of layering, etc. is noted to make lymphoma more probable, but lymphoma cannot be definitively ruled out without tissue sampling. The diffusely mildly fluid distended gastrointestinal tract is consistent with irritation/gastroenteritis secondary to dietary indiscretion or intolerance, infection (bacterial, viral, other), parasitic or protozoal disease, toxin, other metabolic disease such as mild pancreatitis, etc. Outflow obstruction is not visible in these images, and is considered of low likelihood, but can't be 100% ruled out.

- **Pancreatic nodular hyperplasia –** Infiltrative neoplasia cannot be ruled out but is considered less likely. Low-grade smoldering chronic pancreatitis cannot be ruled out.

- **Reactive mesenteric lymph nodes –** infiltrative neoplastic disease cannot be ruled out but is considered less likely.

- **Chronic Kidney Disease –** This appearance of the kidneys is consistent with chronic kidney disease such as chronic glomerular or interstitial nephritis, chronic pyelonephritis, etc.

- **Bilateral medullary rim sign -** This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.

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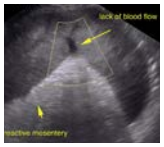
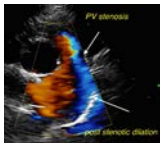
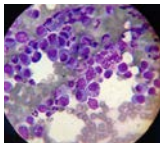
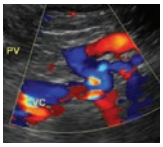

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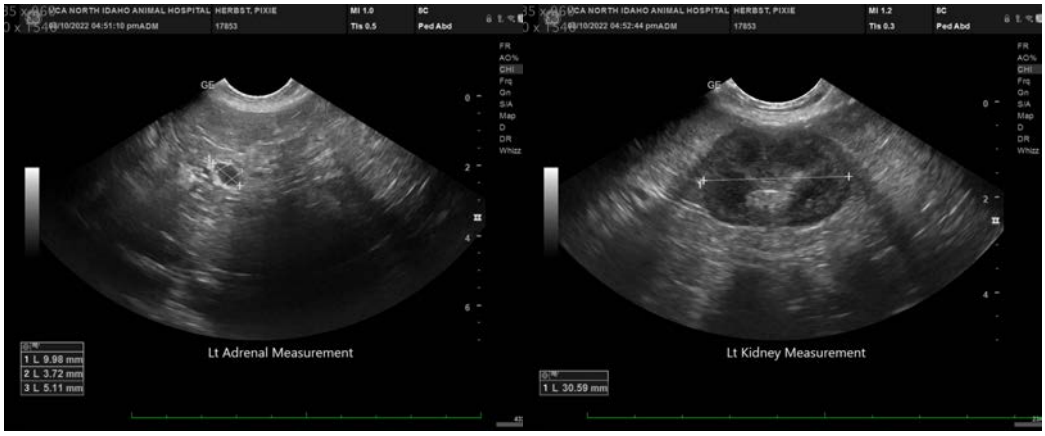
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

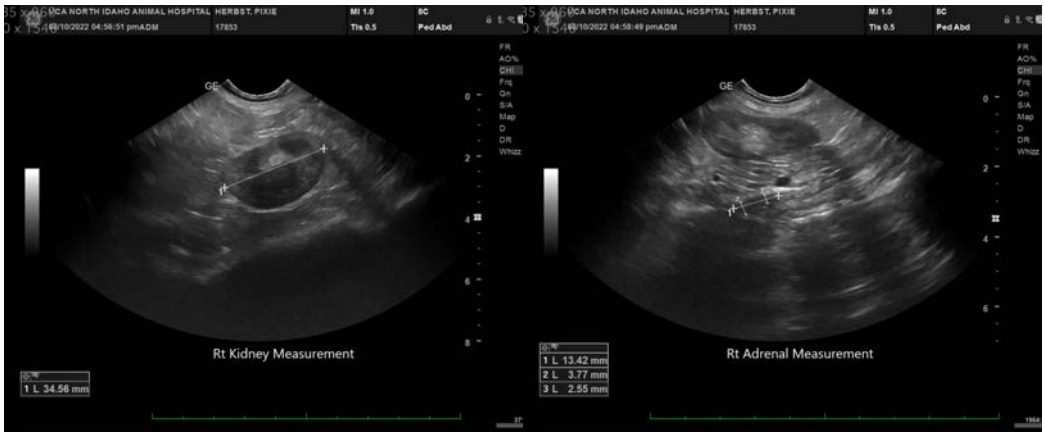
Given this patient's reported neurologic signs and blindness in the face of normal blood pressure, a urinalysis is recommended with follow up urine protein to creatinine ratio to quantify proteinuria if protein is present on the urinalysis with an otherwise quiet sediment, as proteinuria can also lead to stroke-like vascular events/behavior.

This ultrasound is suggestive/supportive of potentially mild active, potentially acute on chronic pancreatitis and definitively gastroenteritis on top of suspect infiltrative bowel disease, which may be contributing to the CBC changes in question. However, there is no obvious cause to describe the reported neurologic signs/blindness, etc.

A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

In the meantime, supportive/symptomatic medical management is recommended while pending results, followed ultimately by further neurologic evaluation +/- advanced imaging if an explanation cannot be found and clinical signs do not resolve and/or persist.





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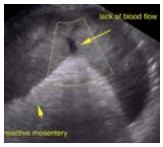
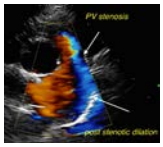
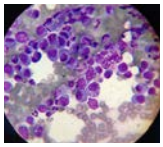
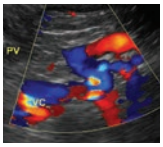

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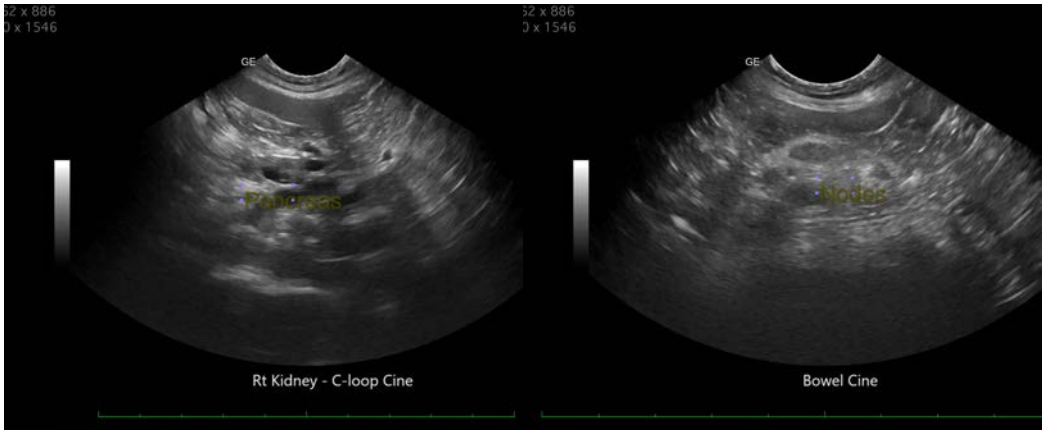

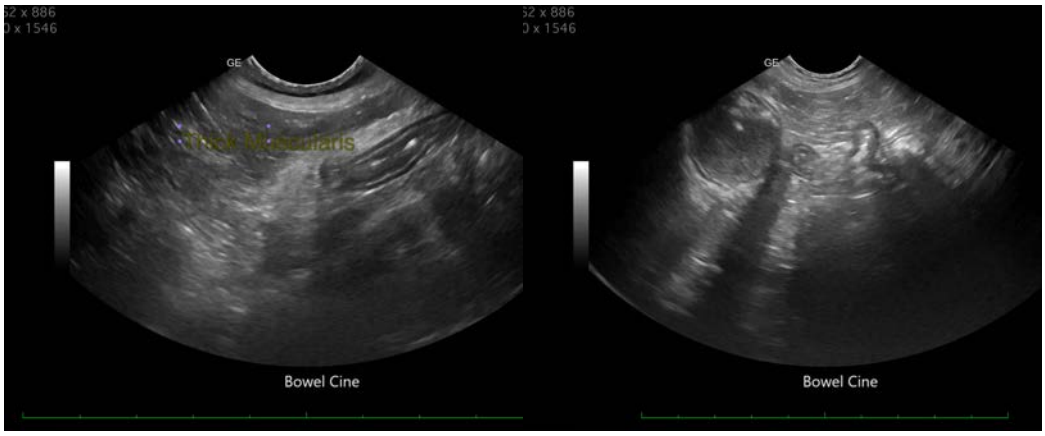

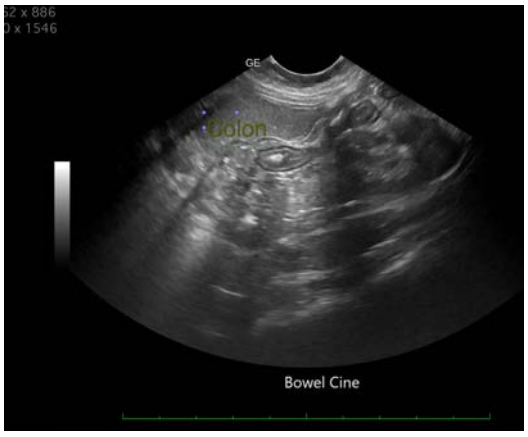

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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