



PATIENT

Enzo Galbraith

SPECIES

Feline

BREED

Egyptian Mau

SEX

Neutered Male

AGE

12 Years

WEIGHT

6.12 kg

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Nigel Gumley

HOSPITAL NAME

Cedarview AH

REFERRING VET

David Sparks

INVOICE

21522

DATE

3/8/23

PRESENTING CLINICAL SIGNS

History of PU/PD, poor appetite, constipation, episodes of breathing rapidly, hiding. Scabs over shoulders in skin. Pain noted over kidneys. Renal disease based on elevated creatinine, hypostenuria.

Abnormal PE/Chem/CBC/UA Results: Mild diffuse bronchial pattern on chest rads, normal abdominal rads. FeLV/FIV neg, T4 normal, normal urine sediment, spec fPL normal, CBC normal, globulins normal, creat = 278.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately 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 normal in size and contour. A relatively uniform hyperechogenicity is observed with mildly decreased corticomedullary distinction. There is no pyelectasia noted and no mineral is observed. No overt masses/nodules are observed. The left kidney measures 4.17 cm. The right kidney measures 4.41 cm. Chronic infarcts are noted in both kidneys. In the left kidney, there is a 0.5 cm lesion, characterized by hypo- to anechoic center and a hyperechoic rim. Additionally, both kidneys are surrounded by a scant amount of anechoic free fluid and hyperechoic enhanced mesenteric fat.

Adrenal Glands

Left adrenal gland is normal in size (0.28 cm at cranial pole and 0.25 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (0.35 cm), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

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 enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. 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. The gallbladder is bilobed, which is an incidental normal anatomic variant in cats.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.



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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 lumen of the small intestine is empty with no evidence of obstruction or foreign material.

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The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

Pancreas

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The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

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Free Abdomen

A scant amount of anechoic free fluid and enhanced mesenteric fat are noted, surrounding both kidneys. 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.

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ULTRASONOGRAPHIC FINDINGS

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- Nephritis – This appearance can be consistent with chronic interstitial nephritis or glomerulonephritis. Toxic insult and/or infectious disease (pyelonephritis, Leptospirosis, etc.) cannot be ruled out. This finding should be interpreted in combination with suspicion for renal disease and/or supporting laboratory or urinalysis changes. *A lesion is noted in the left kidney that could represent a cyst, complicated cyst, or potentially an abscess vs a scar from a previous granuloma vs other. Appearance trends toward benign. An infiltrative nodule cannot be ruled out. Additionally, the changes around the kidneys are suggestive of an acute inflammatory change, as is seen with an acute kidney insult.
- 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.
- Hyperechoic hepatomegaly – This appearance is most consistent with benign hepatic lipidosis. Infiltrative disease such as amyloidosis or round cell neoplasia, such as mast cell tumor or less likely, lymphoma, is also possible.
- Reactive mesenteric lymph nodes – infiltrative neoplastic disease cannot be ruled out but is considered less likely.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patients reported clinical signs, laboratory changes, pain upon kidney palpation, and ultrasound changes, etc., an acute, potentially on chronic, kidney insult is considered probable with infectious etiologies or less likely infiltrative neoplasia all being differentials. Recommendations include a urine culture (if not recently evaluated) to rule out an occult urinary tract infection. Additionally, a fine needle aspirate of the kidneys, especially the nodule in the left kidney, could be considered if patients coagulation status is appropriate, however, infiltrative disease that will yield a diagnosis cytologically, is considered less likely.

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Empirical management of acute on chronic kidney disease with diuresis, as well as supportive medical management of clinical signs in the form of antiemetics, gastroprotectants and appetite stimulants (if needed), as well as management of any electrolyte abnormalities, hypertension or proteinuria. If indicated, as well as broad spectrum antibiotics, is recommended with monitoring of creatinine for improvement.

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Additionally, given this patient's bowel changes, pending response to the acute illness, next steps include 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.

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Ideally, biopsies of the GI tract, being sure to include ileum, if possible, are recommended to definitively diagnose and therefore manage the infiltrative bowel disease.

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If biopsies cannot be obtained, empirical therapies could include a probiotic (if diarrhea is present, such as Visbiome or Provable), empirical deworming with a 5-day course of Panacur and, if tolerated, a transition in diet, based on trial-and-error response, beginning with a hydrolyzed protein diet. Some patients respond to one brand/version of a hydrolyzed protein diet better than another brand, so several trials may be required.

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Additional considerations could include cobalamin supplementation (unless cobalamin level is evaluated and supplementation is not warranted) and prednisolone (if not contraindicated based on patient contraindications, co-morbidities, etc.).

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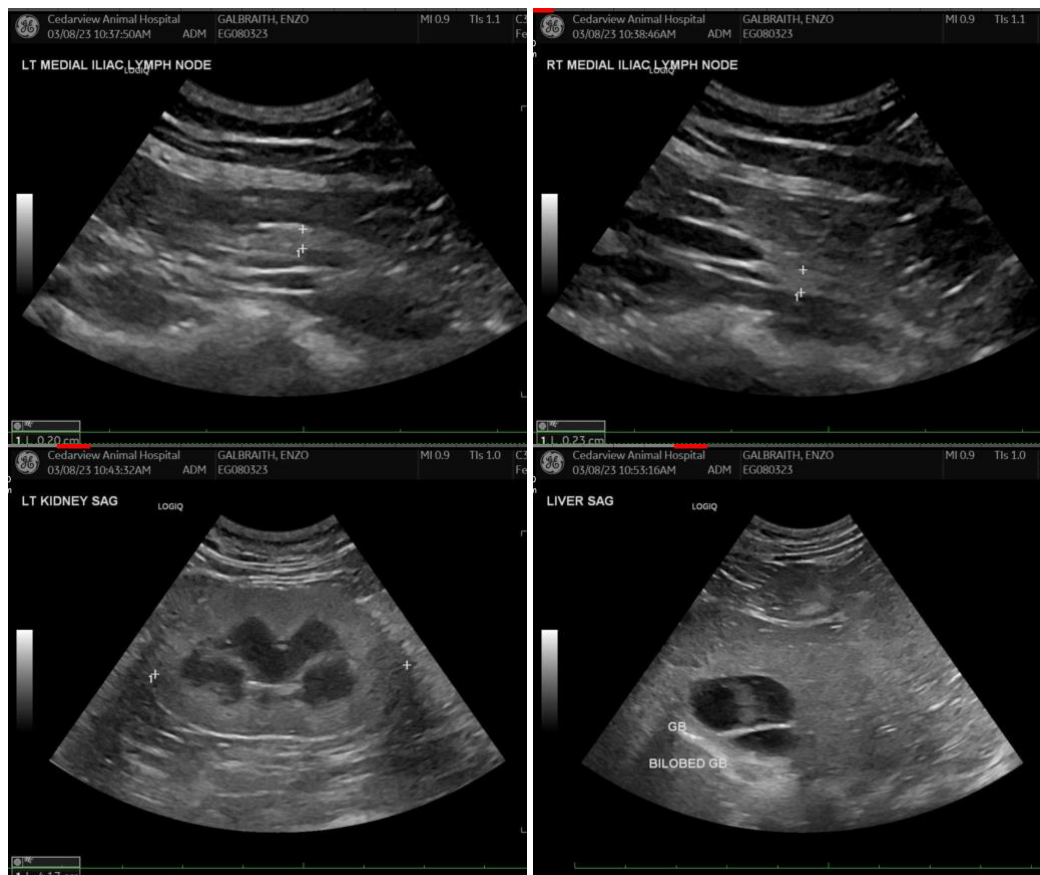
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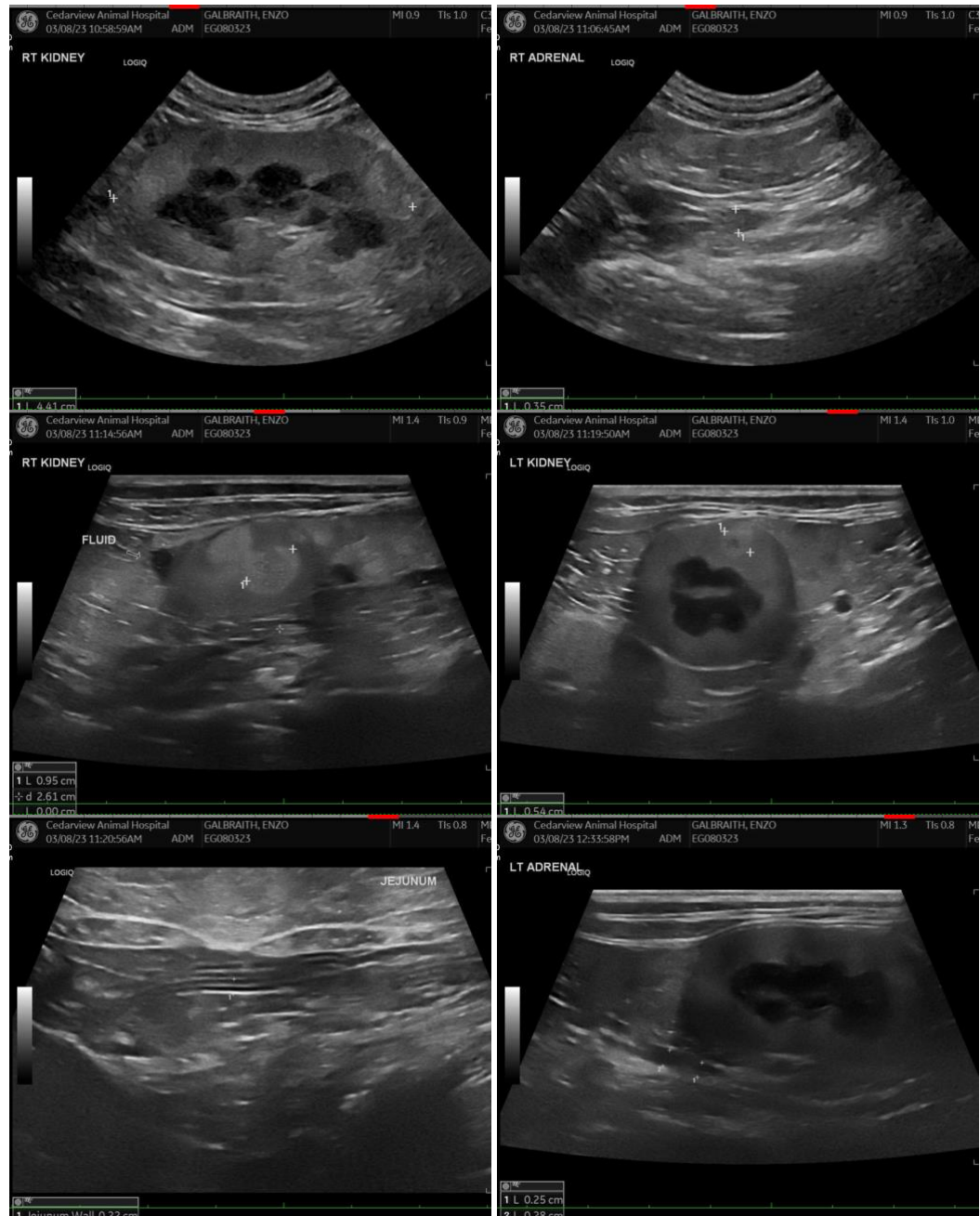
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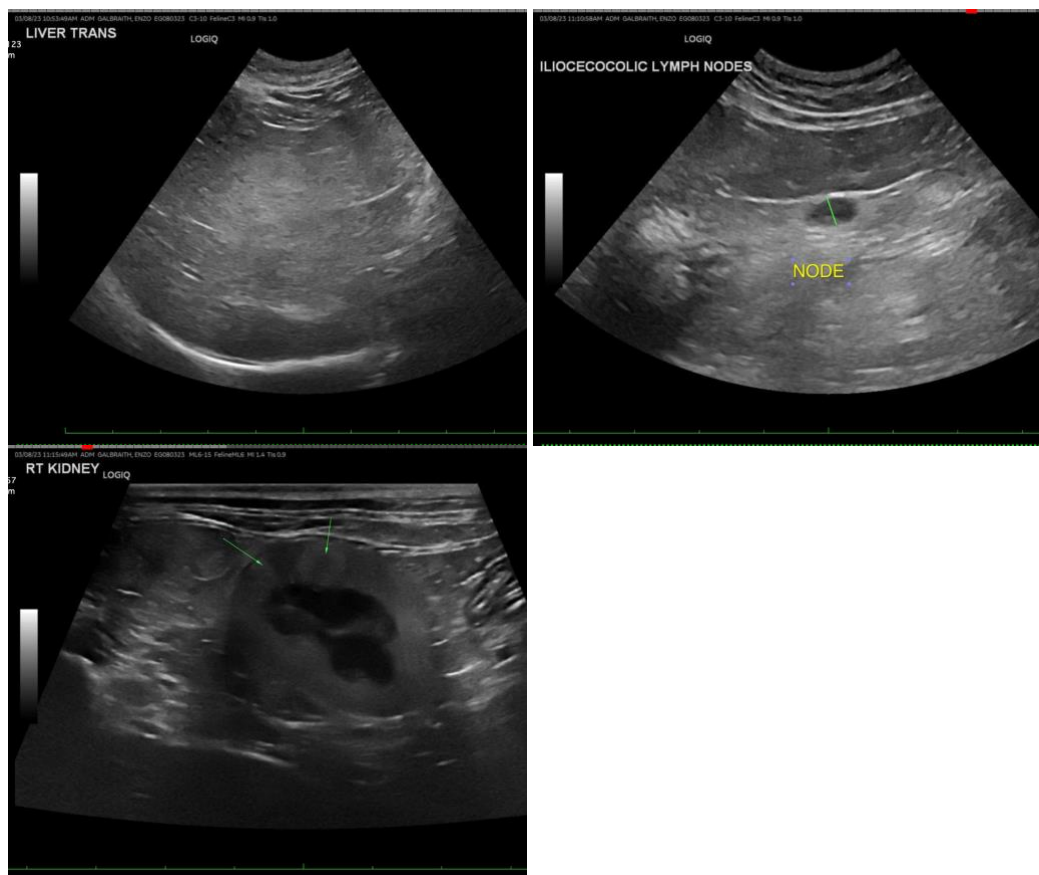
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM DACVIM

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