

PATIENT

Delilah Hedrick

SPECIES

Feline

BREED

DSH

SEX

Spayed Female

AGE

14 Years 10 Months

WEIGHT

10.4

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Kristen Carpenter

HOSPITAL NAME

Pennridge AH

REFERRING VET

Dr. Andrew Rosenfeld

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44870

DATE

8/23/23

PRESENTING CLINICAL SIGNS

Hx: 14.10 yo FS DSH 10.4# Sedated with gabapentin and butorphanol Hx of pancreatitis and CKD. On k/d diet. Recent presentation for gross hematuria and diarrhea. Diarrhea responded to metronidazole. Normal appetite. Bloodwork and UA: Normal BG, Creat 1.7 BUN 35, phos 5.0 T4 2.6. UA USG 1.018, 1+ protein. RBC > 50 per HPF. No bacteria noted. Treated with convenia. O would like full AUS for general screening.

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 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 is small at 2.89 cm. The right kidney is normal in size at 3.18 cm.

Adrenal Glands

The right adrenal gland is normal in size (0.45 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.29 cm), 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

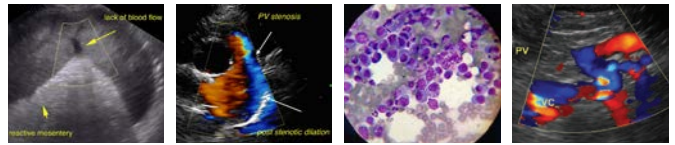
The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal 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.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with 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 intestine demonstrates areas of mildly 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 is mildly distended with



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echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction or foreign material noted.

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The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

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Pancreas

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The observed pancreas appears appropriately isoechoic to surrounding omental fat. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

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Free Abdomen

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

There is no apparent lymphadenopathy noted in these images.

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ULTRASONOGRAPHIC FINDINGS

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- **Mild, emerging 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.
- **Pancreatic age-related remodeling** – Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.
- **Chronic Kidney Disease** – This appearance of the kidneys is consistent with chronic kidney disease such as chronic glomerular or interstitial nephritis, chronic pyelonephritis, etc.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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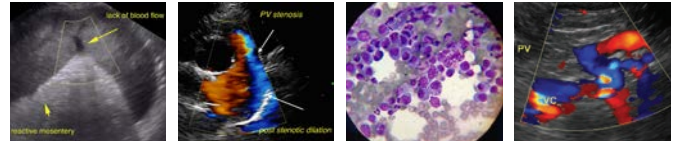
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Additional considerations could include cobalamin supplementation (unless cobalamin level is evaluated and supplementation is not warranted) and prednisolone (if not contraindicated based on patient contraindications, co-morbidities, etc.).

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Given this patient's reported chronic kidney disease and hematuria, a urine culture could be considered.



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In the face of negative urine culture(s) and no cystoliths, masses, etc., these urinary signs are most consistent with sterile cystitis or feline lower urinary tract disease (FLUTD).

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Recommendations include maximizing water consumption (water fountains, canned food, etc) as well as reducing stress (recommendations can be found at Indoor Cat Initiative out of The Ohio State University CVM). Transition to a urinary health diet such as Royal Canin Urinary SO (or similar) could also be considered.

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If not recently evaluated, a blood pressure is recommended.

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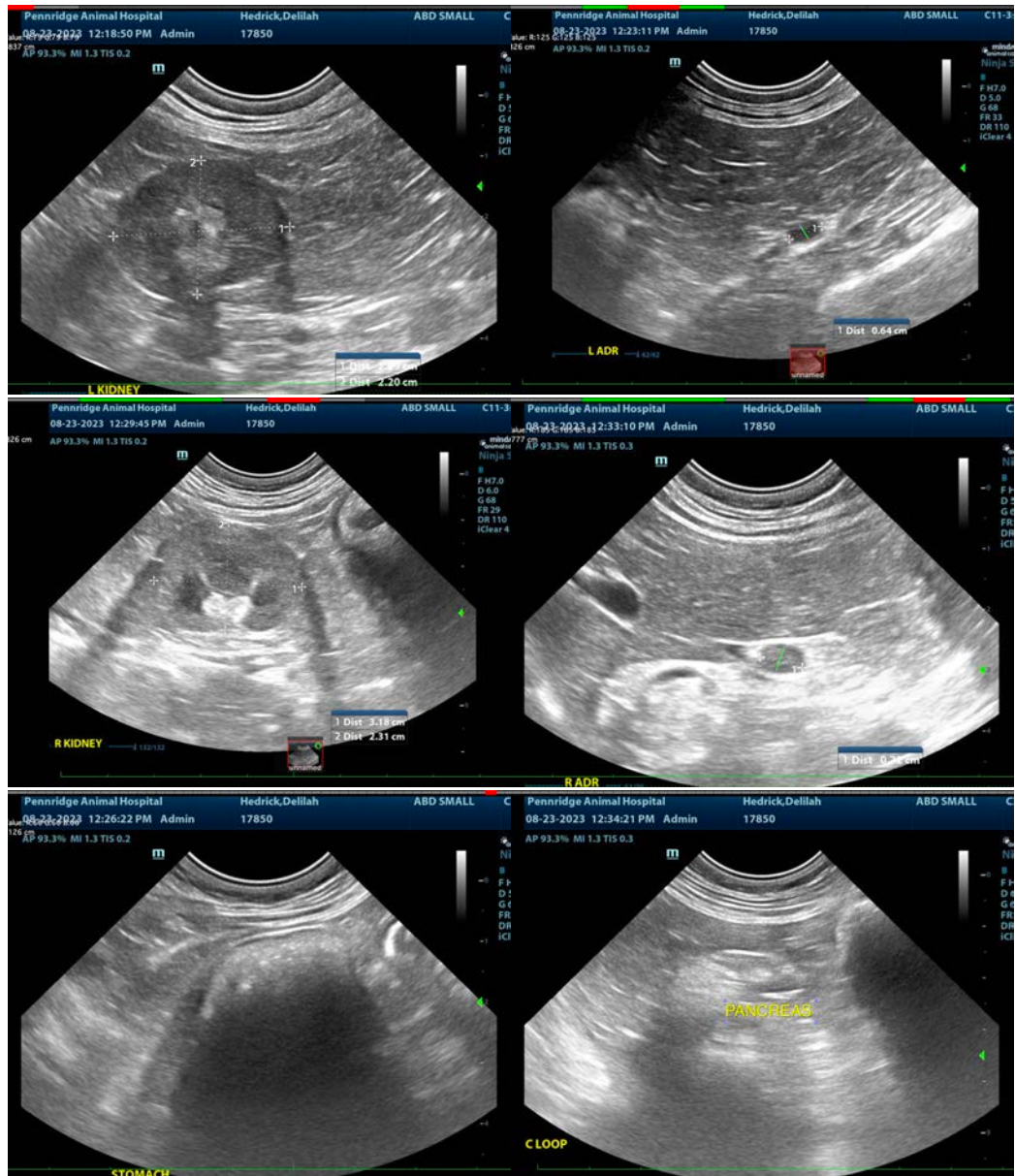
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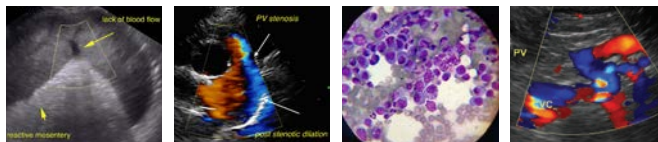
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
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