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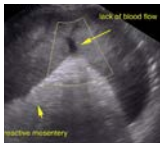
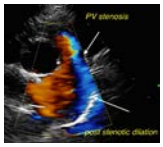
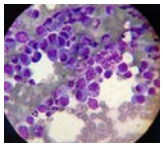
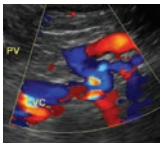

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1-800-838-4268 info@sonopath.com

PATIENT
Esmeralda Taylor

SPECIES
Feline

BREED
DSH

SEX
Spayed Female

AGE
2 Years

WEIGHT
9 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Dr. Ellen Puthoff

HOSPITAL NAME
Kings Vet Hospital

REFERRING VET
Dr. Ellen Puthoff

INVOICE
43459

DATE
12/14/22

PRESENTING CLINICAL SIGNS

Esmerelda presents for gastrointestinal upset. In September, Esmerelda was seen for vomiting of one week duration. Bloodwork with thyroid value revealed mild eosinophilia, otherwise unremarkable. Radiographs revealed mild constipation - treated with enema and responded well to supportive care with SQ fluids and cerenia injection. Recommended switching to hydrolyzed protein diet but was not interested in z/d. Continued to have random episodes of vomiting. About four days ago, vomiting increased again in frequency and began having diarrhea. Appetite and energy still normal.

Abnormal PE/Chem/CBC/UA Results: PE revealed mild dehydration and several ounces of weight loss. WBC elevated 24.32 K/uL d/t neutrophilia and basophilia. Glucose 206 (suspect stress), BUN: 14 mg/dL, low normal albumin (2.4 g/dL), cholesterol low normal (86 mg/dL). UA unremarkable. Cobalamin/Folate/PLI pending.

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 incidental suspended lipid in a cat, possibly combined with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (4.3 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, mineral or infarcts observed.

The left kidney is normal in size (3.8 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, mineral or infarcts observed.

Adrenal Glands

The adrenal glands are unable to be well visualized in these images.

Spleen

Spleen is normal in size with normal smooth margins. Parenchyma is normal in echogenicity. However, there is an overall mildly coarse heterogeneous appearance to the parenchyma. No focal nodules or masses are observed. Splenic vasculature appears normal.

**Some of the appearance of the spleen may be machine related versus true patient pathology.

Liver

Liver is subjectively enlarged (swollen contour). Mild parenchymal remodeling with diffusely mildly coarse architecture and increased portal markings is present. No focal nodules or masses are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris (mild). The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

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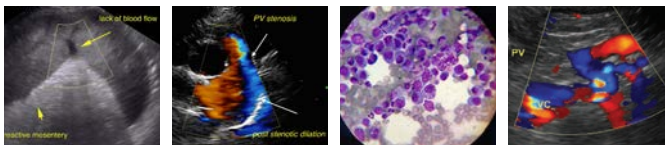

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Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

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 is empty with no evidence of obstruction or foreign material.

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

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

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

There is no apparent lymphadenopathy noted in these images.

PRIMARY 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.

- **Hypoechoic hepatomegaly** – This appearance is consistent with an acute hepatopathy or acute cholangiohepatitis. Infiltrative neoplasia (round cell neoplasia) should also be considered.

- **Coarse spleen –** Again, the appearance may be partially machine related, or can be associated with congestion caused by sedation, but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, amyloidosis as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered.

SECONDARY FINDINGS

- Urinary bladder debris

- **Feline fallbladder debris** - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness, however, it can also be associated with hepatobiliary disease in cats and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

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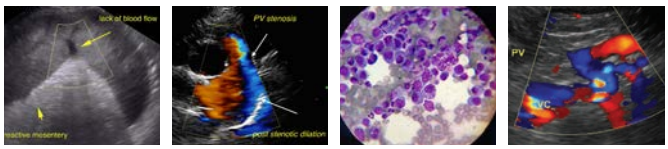

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

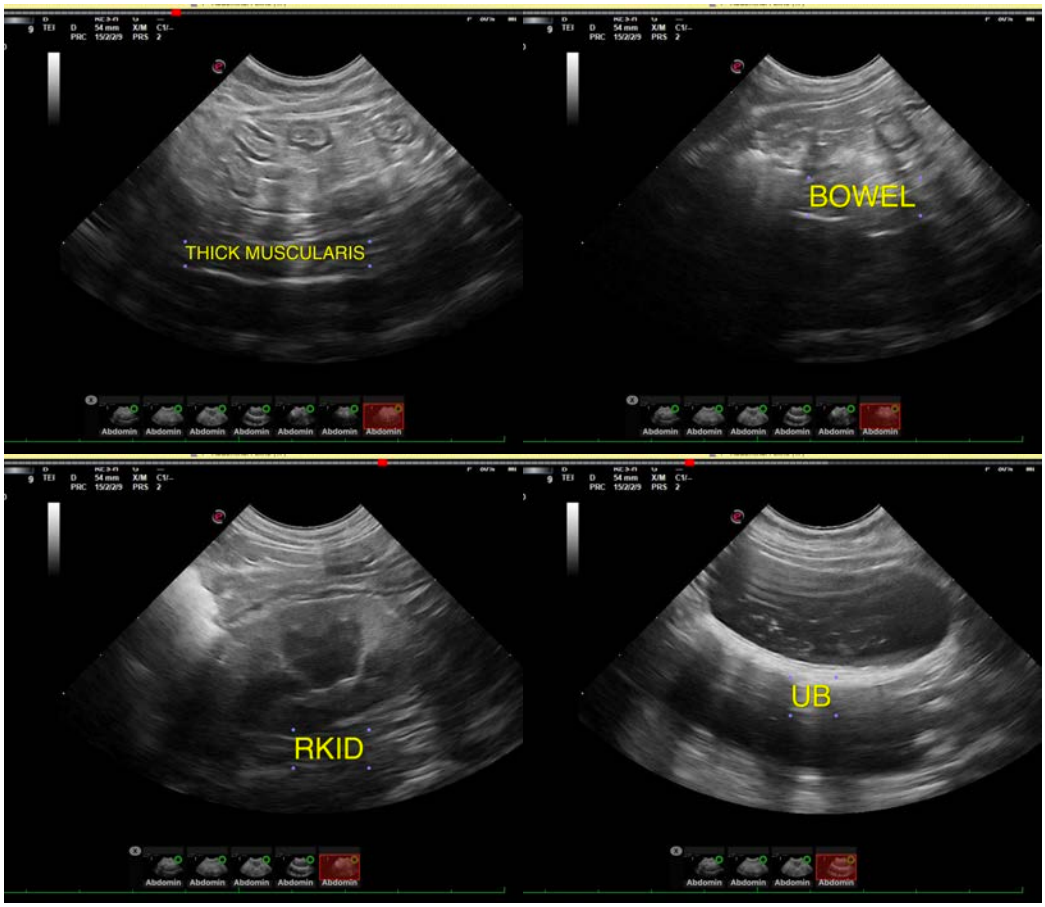
As is reportedly already pending, a gastrointestinal malabsorption panel is recommended. Additionally, if not recently evaluated, a fecal exam is recommended.

Ultimately, biopsies of the GI tract, being sure to include ileum, if possible, are necessary to definitively diagnose and therefore manage the suspected infiltrative bowel disease. Prior to biopsies, a fine needle aspirate of both the spleen and liver could be considered as a slightly less invasive approach if patient's coagulation status is appropriate.

Given the appearance of this patient's spleen combined with the history of an eosinophilia, premedication with diphenhydramine is recommended before aspirates in case of mast cell tumor.

Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

In the meantime, empirical deworming with a 5-day course of Panacur is recommended, as is transition in diet to a different hydrolyzed diet, given the lack of tolerance of z/d, or potentially a novel protein diet if another hydrolyzed option is not better received, as well as a probiotic such as Visbiome or Proviable.



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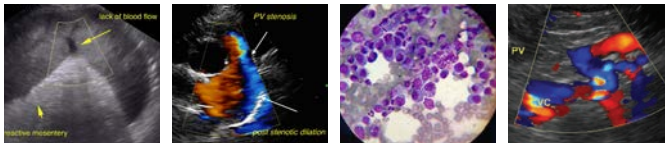

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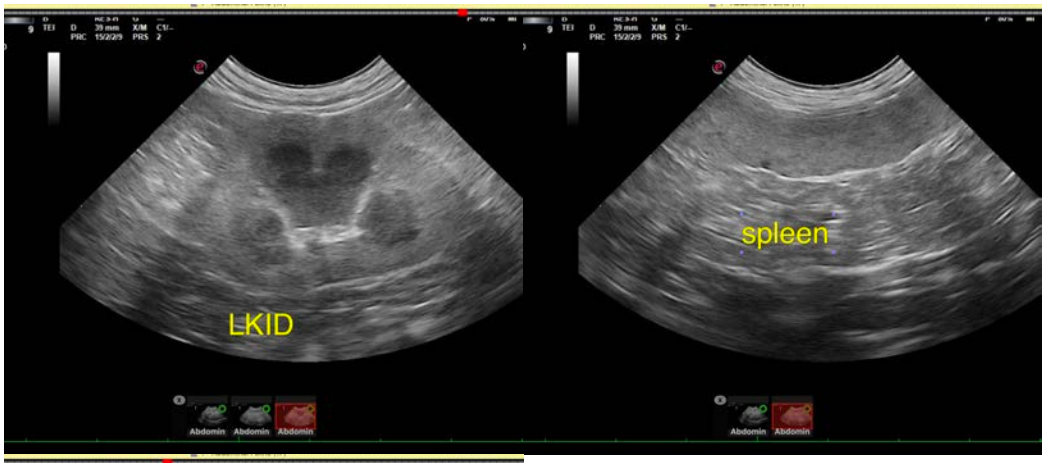

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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