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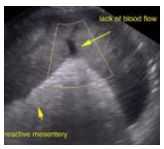
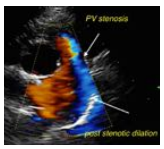
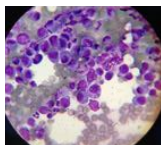
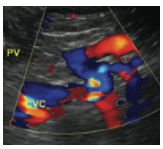

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1-800-838-4268 info@sonopath.com

**PATIENT**
Queenie Dunn

**SPECIES**
Feline

**BREED**
Domestic Shorthair

**SEX**
Spayed female

**AGE**
15 years

**WEIGHT**
11.9 lbs

**INTERPRETED BY**
Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**
Diane McFadden, RVT

**HOSPITAL NAME**
Companion AH

**REFERRING VET**
Dr. Tsai

**INVOICE**
40023

**DATE**
10/11/22

## PRESENTING CLINICAL SIGNS

History: not eating well. recently on Zeniquin 12.5mg QDx 14 days
Ca decreased 7.3, WBC 18.1 with neutrophilia 12.8 and eos 1086

## 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.

Left kidney is normal is size (3.84 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.

Right kidney is normal is size (4.53 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*

Adrenal glands are bilaterally uniformly plump egg-shaped adrenals (left adrenal measured 0.73 cm, right adrenal gland measured 0.5 cm), hypoechoic in echogenicity with bilateral dystrophic mineralization noted. This is most likely a benign age-related change. This change can be caused by chronic stress/disease, so investigation for/management of other disease (chronic kidney disease, hyperthyroidism, etc.) is recommended.

### *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 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.

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. An incidental, anatomic variant of a bilobed gallbladder was noted. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

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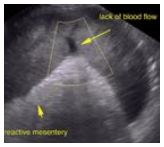

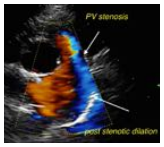

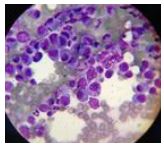
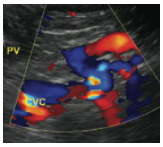


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### *Gastrointestinal*

The 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.

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.

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

### *Pancreas*

Pancreas is prominent in size with swollen irregular contour. Parenchyma is heterogenous characterized by hyperechoic tissue remodeling intermixed with ill-defined hypoechoic nodules. A hypoechoic, cystic appearing nodule that measures approximately 1.0 x 0.5 cm in diameter is noted in the caudal left limb. A cystic lymph node adjacent to the pancreas cannot be definitively ruled out. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### *Free Abdomen*

There is no appreciable free fluid, but there is some enhanced hyperechoic fat noted around the root of the mesentery.

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

### 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.
- **Pancreatic nodular hyperplasia –** Infiltrative neoplasia cannot be ruled out but is considered less likely. There was also a suspected pancreatic cyst or cystic nodule. Cystic lymph node adjacent to the pancreas cannot be definitively ruled out.
- **Reactive mesenteric lymphadenopathy and enhanced fat around the root of the mesentery,** likely reactive given the patient's suspected infiltrative bowel disease.

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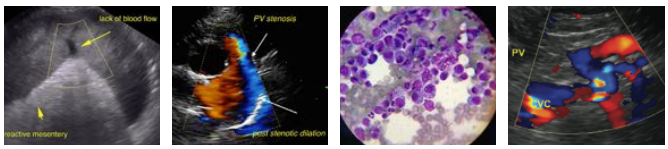

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## Secondary Findings

- **Gallbladder 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.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

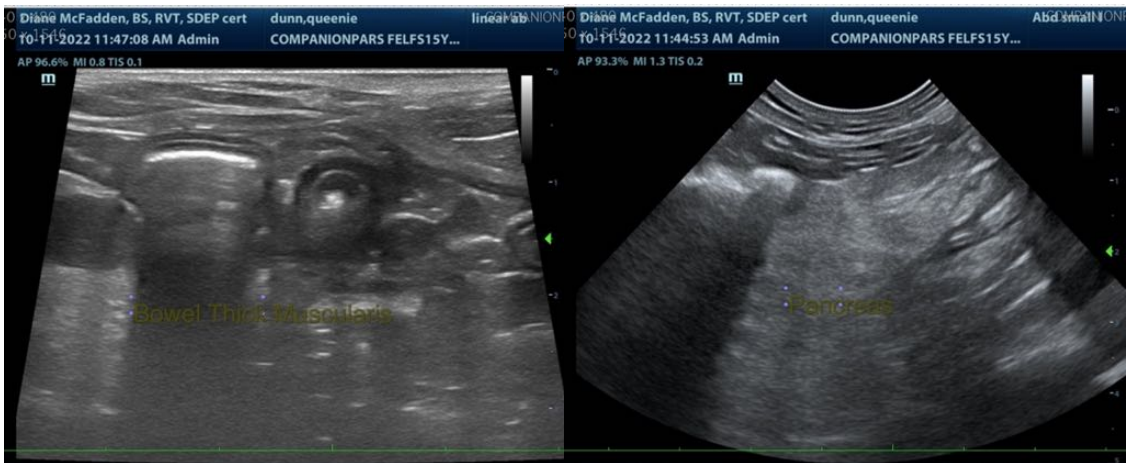
A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

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.

If biopsies cannot be obtained, given this patient's eosinophilia empirical therapies could include diet change to a hydrolyzed protein diet, empirical deworming with a 5 day course of Panacur, cobalamin supplementation (unless cobalamin level is evaluated and supplementation is not warranted) and prednisolone (if not contraindicated based on patient contraindications, co-morbidities, etc.).

Given this patient's concurrent hypocalcemia and ionized calcium is recommended for further evaluation followed potentially by calcium supplementation if warranted.

FNA of the suspected pancreatic nodular hyperplasia could be considered if the patient's coagulation status is appropriate. However, the appearance trends toward benign in appearance so monitoring is a viable option as well.



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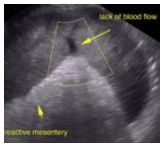
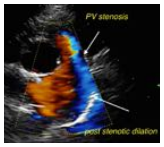
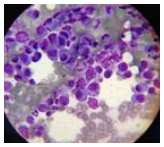
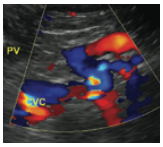

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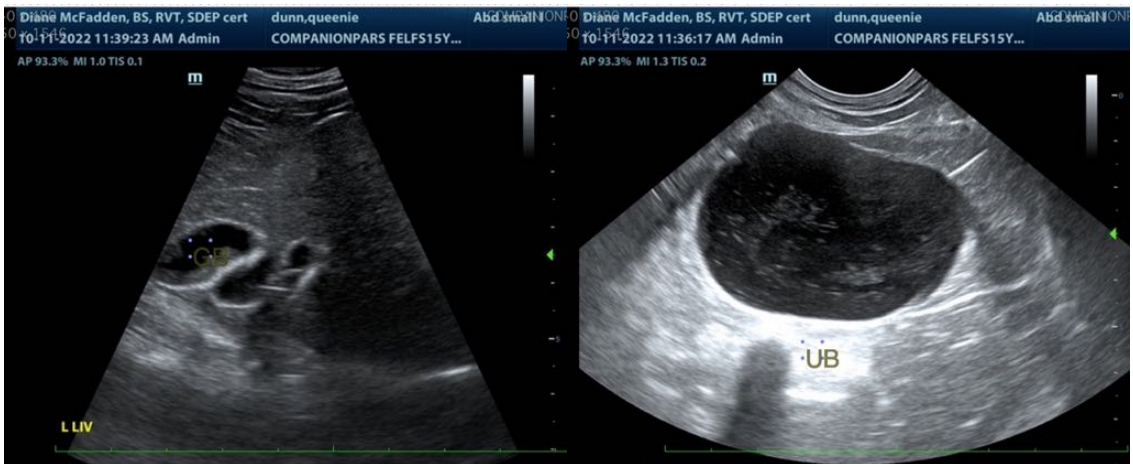


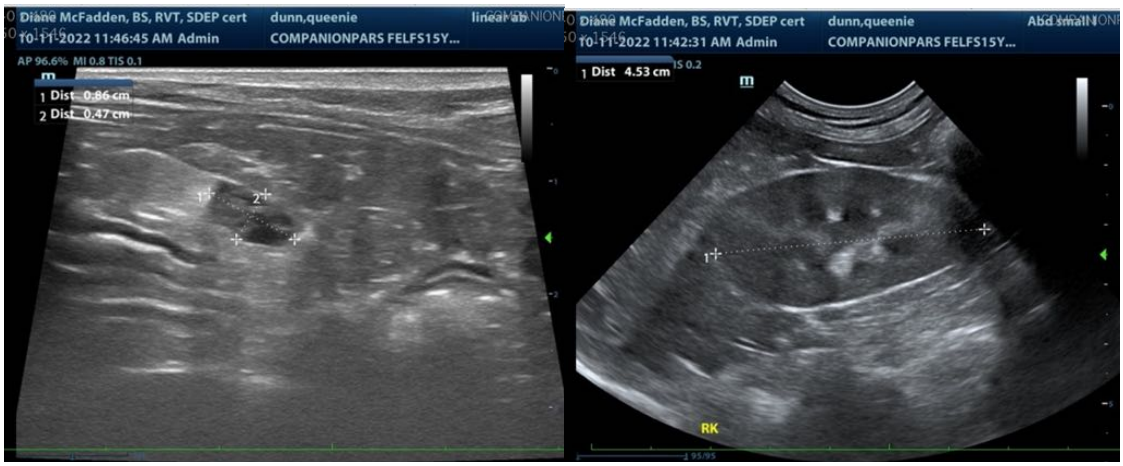

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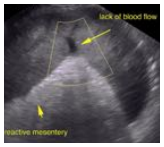
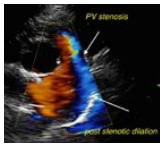
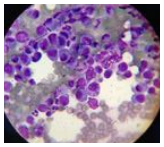
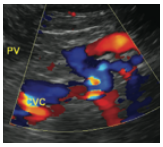

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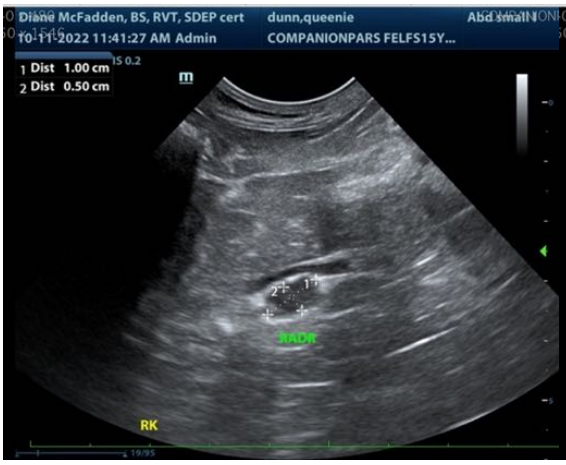




**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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